

**Iowa Department of Natural Resources
Title V Operating Permit**

Name of Permitted Facility: **Blackhawk Foundry and
Machine Co., Inc.**
Facility Location: **323 South Clark Street
Davenport, IA 52802**
Air Quality Operating Permit Number: **04-TV-003**
Expiration Date: **January 14, 2009**

EIQ Number: 92-0512
Facility File Number: 82-01-004

Responsible Official

Name: **Mr. James Grafton**
Title: **President**
Mailing Address: **323 South Clark Street
Davenport, IA 52802**
Phone #: **563-323-3621**

Permit Contact Person for the Facility

Name: **Mr. Larry Thomsen**
Title: **Environmental/Facility Engineer**
Mailing Address: **323 S. Clark Street
Davenport, IA 52802**
Phone #: **563-323-3621**

This permit is issued in accordance with 567 Iowa Administrative Code Chapter 22, and is issued subject to the terms and conditions contained in this permit.

For the Director of the Department of Natural Resources

Douglas A. Campbell, Supervisor of Air Operating Permits Section

Date

Table of Contents

I. Facility Description and Equipment List	4
II. Plant - Wide Conditions	6
III. Emission Point Specific Conditions	10
IV. General Conditions.....	47
G1. Duty to Comply	
G2. Permit Expiration	
G3. Certification Requirement for Title V Related Documents	
G4. Annual Compliance Certification	
G5. Semi-Annual Monitoring Report	
G6. Annual Fee	
G7. Inspection of Premises, Records, Equipment, Methods and Discharges	
G8. Duty to Provide Information	
G9. General Maintenance and Repair Duties	
G10. Recordkeeping Requirements for Compliance Monitoring	
G11. Evidence used in establishing that a violation has or is occurring.	
G12. Prevention of Accidental Release: Risk Management Plan Notification and Compliance Certification	
G13. Hazardous Release	
G14. Excess Emissions and Excess Emissions Reporting Requirements	
G15. Permit Deviation Reporting Requirements	
G16. Notification Requirements for Sources That Become Subject to NSPS and NESHAP Regulations	
G17. Requirements for Making Changes to Emission Sources That Do Not Require Title V Permit Modification	
G18. Duty to Modify a Title V Permit	
G19. Duty to Obtain Construction Permits	
G20. Asbestos	
G21. Open Burning	
G22. Acid Rain (Title IV) Emissions Allowances	
G23. Stratospheric Ozone and Climate Protection (Title VI) Requirements	
G24. Permit Reopenings	
G25. Permit Shield	
G26. Severability	
G27. Property Rights	
G28. Transferability	
G29. Disclaimer	
G30. Notification and Reporting Requirements for Stack Tests or Monitor Certification	
G31. Prevention of Air Pollution Emergency Episodes	
G32. Contacts List	

V. Appendix 1: 40 CFR Part 63 Subpart RRR Summary Document	61
VI. Appendix 2: Table 2 to Subpart RRR: Summary of Operating Requirements for New and Existing Affected Sources and Emission Units	72
VII. Appendix 3: Table 3 to Subpart RRR: Summary of Monitoring Requirements for New and Existing Affected Sources and Emission Units	76
VIII. Appendix 4: General Provisions Applicability to Subpart RRR	80
IX. Appendix 5: IDNR Policy 3-b-08 Opacity Limits	84
X. Appendix 6: IDNR Administrative Consent Order No. 03-AQ-51	89
XI. Appendix 7: Operation Maintenance and Monitoring (OM&M) Plan	98

Abbreviations

acfm.....	actual cubic feet per minute
CFR	Code of Federal Regulation
°F	degrees Fahrenheit
EIQ	emissions inventory questionnaire
gr./dscf.....	grains per dry standard cubic foot
gr./100 cf	grains per one hundred cubic feet
IAC	Iowa Administrative Code
IDNR	Iowa Department of Natural Resources
MVAC.....	motor vehicle air conditioner
NSPS	new source performance standard
ppmv.....	parts per million by volume
lb./hr	pounds per hour
lb./MMBtu.....	pounds per million British thermal units
scfm	standard cubic feet per minute
TPY	Tons per year
USEPA	United States Environmental Protection Agency

Pollutants

PM	particulate matter
PM ₁₀	particulate matter ten microns or less in diameter
SO ₂	sulfur dioxide
NO _x	nitrogen oxides
VOC	volatile organic compounds
CO	carbon monoxide
HAP	hazardous air pollutant

I. Facility Description and Equipment List

Facility Name: Blackhawk Foundry and Machine Co., Inc.

Permit Number: 04-TV-003

Facility Description: Gray and Ductile Iron Foundry (SIC 3321)

Steel Foundries, nec (SIC 3325)

Secondary Nonferrous Metals (SIC 3341)

Equipment List

Emission Point Number	Associated Emission Unit Number(s)	Associated Emission Unit Description	Iowa DNR Construction Permit
201	102	Cupola	72-A-060-S5
202	122	Wheelabrator #1 (Vents Internally)	77-A-114-S1
	123	Grinding (Vents Internally)	
203	105	Casting/Sorting	02-A-290
	134	Wheelabrator #2	
204	103A	Cupola Ladle	84-A-055-S1
	103B	Pour Deck Ladle	
	106	Sand Shakeout	
	109	Muller	
	112	Return Sand #1	
	113	Sand Cooler	
	114	Sand Screen	
	128	Return Sand #2	
205	107	Mold Sand Silo (Vents Internally)	02-A-291
206	108	Bond Storage (Vents Internally)	02-A-292
207	104	Mold Pouring/Cooling (Vents Internally)	N/A
	110	Mold Making (Vents Internally)	
	111	Sand Transfer (Vents Internally)	
208	116	Shell Core Making (Vents Internally)	N/A
210	119	Warmbox Core Making (Vents Internally)	N/A
211	127	Plant Heating	N/A
213	129	Induction Furnace (Vents Internally)	02-A-293
	130	Aluminum Sweat Furnace (Vents Internally)	
	131	Aluminum Sweat Furnace Burner (Vents Internally)	
214	133	Coldbox Core Machine	02-A-116
218	101	Scrap and Charge (Fugitive)	N/A

Insignificant Equipment List

Insignificant Emission Unit Number	Insignificant Emission Unit Description
EU-115	Isocure Core Making
EU-117	Shell Core Curing
EU-118	Core Oven
EU-120	Warm Box Core Curing
EU-124	Tool Room
EU-125	Coke Pile
EU-126	Limestone Pile
EU-132	Haul Road
EU-135	Coke Unloading
EU-136	Limestone Pile Handling
EU-137	Waste Sand Handling
EU-138	Waste Sand Storage Pile
EU-139	Scrap Pile
EU-140	Core Oven 2
EU-141	Maintenance Welding
EU-142	Maintenance Parts Wash

II. Plant-Wide Conditions

Facility Name: Blackhawk Foundry and Machine Co., Inc.
Permit Number: 04-TV-003

Permit conditions are established in accord with 567 Iowa Administrative Code rule 22.108

Permit Duration

The term of this permit is: Five (5) Years
Commencing on: January 15, 2004
Ending on: January 14, 2009

Amendments, modifications and reopenings of the permit shall be obtained in accordance with 567 Iowa Administrative Code rules 22.110 - 22.114. Permits may be suspended, terminated, or revoked as specified in 567 Iowa Administrative Code Rules 22.115.

Emission Limits

Unless specified otherwise in the Source Specific Conditions, the following limitations and supporting regulations apply to all emission points at this plant:

Opacity (visible emissions): 40% opacity
Authority for Requirement: 567 IAC 23.3(2)"d"

Sulfur Dioxide (SO₂): 500 parts per million by volume
Authority for Requirement: 567 IAC 23.3(3)"e"

Particulate Matter (state enforceable only)¹:

No person shall cause or allow the emission of particulate matter from any source in excess of the emission standards specified in this chapter, except as provided in 567 – Chapter 24. For sources constructed, modified or reconstructed after July 21, 1999, the emission of particulate matter from any process shall not exceed an emission standard of 0.1 grain per dry standard cubic foot of exhaust gas, except as provided in 567 – 21.2(455B), 23.1(455B), 23.4(455B) and 567 – Chapter 24.

For sources constructed, modified or reconstructed prior to July 21, 1999, the emission of particulate matter from any process shall not exceed the amount determined from Table I, or amount specified in a permit if based on an emission standard of 0.1 grain per standard cubic foot of exhaust gas or established from standards provided in 23.1(455B) and 23.4(455B).
Authority for Requirement: 567 IAC 23.3(2)"a" (as revised 7/21/1999)

¹ This is the current language in the Iowa Administrative Code (IAC). This version of the rule is awaiting EPA approval to become part of Iowa's State Implementation Plan (SIP). When EPA approves this rule, it will replace the older version and will be considered federally enforceable.

Particulate Matter (federally enforceable)²:

The emission of particulate matter from any process shall not exceed the amount determined from Table I, except as provided in 567 — 21.2(455B), 23.1(455B), 23.4(455B) and 567 — Chapter 24. If the director determines that a process complying with the emission rates specified in Table I is causing or will cause air pollution in a specific area of the state, an emission standard of 0.1 grain per standard cubic foot of exhaust gas may be imposed.

Authority for Requirement: 567 IAC 23.3(2)"a" (prior to 7/21/1999)

Fugitive Dust: Attainment and Unclassified Areas - No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered repaired or demolished, with the exception of farming operations or dust generated by ordinary travel on unpaved public roads, without taking reasonable precautions to prevent particulate matter in quantities sufficient to create a nuisance, as defined in Iowa Code section 657.1, from becoming airborne. All persons, with the above exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. The highway authority shall be responsible for taking corrective action in those cases where said authority has received complaints of or has actual knowledge of dust conditions which require abatement pursuant to this subrule. Reasonable precautions may include, but not limited to, the following procedures.

1. Use, where practical, of water or chemicals for control of dusts in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
2. Application of suitable materials, such as but not limited to asphalt, oil, water or chemicals on unpaved roads, material stockpiles, race tracks and other surfaces which can give rise to airborne dusts.
3. Installation and use of containment or control equipment, to enclose or otherwise limit the emissions resulting from the handling and transfer of dusty materials, such as but not limited to grain, fertilizers or limestone.
4. Covering at all times when in motion, open-bodied vehicles transporting materials likely to give rise to airborne dusts.
5. Prompt removal of earth or other material from paved streets or to which earth or other material has been transported by trucking or earth-moving equipment, erosion by water or other means.

Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits and Requirements

Blackhawk Foundry and Machine Co., Inc. must operate under the conditions set forth in Administrative Consent Order No. 03-AQ-51, which is attached to this permit as Appendix 6.

Iowa Administrative Consent Order No. 03-AQ-51: Blackhawk Foundry and Machine Co., Inc. must operate under the conditions set forth in Administrative Consent Order No. 03-AQ-51. The following work practice standards shall be met:

² This is the current language in the Iowa SIP, and is enforceable by EPA.

1. The coke belts and transfer points, after the initial unloading point, shall be enclosed at all times during operation of this system to eliminate fugitive PM-10 emissions from these sources.
2. The exterior doors to the sand department are to be closed during sand and bond unloading operations. Sand department staff shall monitor the sand and bond transport vehicle operators to ensure that the sand and bond storage silos are not over-pressurized during filling operations.
3. Maintenance shall be performed on the cupola cap as necessary to ensure that it seals properly at all times. Operating and maintenance personnel shall take immediate action to correct cupola cap sealing problems during cupola operation to prevent continued discharge of fugitive emissions. Blackhawk shall maintain records specifying the date, time, and actions taken to correct cupola cap sealing problems. The records shall be retained for a period of two years following the date of the entries and shall be made available to the DNR upon request. This record keeping shall be an on-going requirement and shall not terminate.
4. A continuous six (6) foot high chain link fence with controlled access gates shall be maintained and located as depicted in Exhibit "A", dated December 2000, which is attached to this Administrative Consent Order and by this reference made a part hereof. The fencing shall be inspected and repaired as necessary.
5. The emission units listed in Exhibit "B" shall be limited to the daily and 12-month rolling average process limits listed in Exhibit "B", which is attached to this Administrative Consent Order and by this reference made a part hereof. The daily quantities of material monitored at each of the units identified in Exhibit "B" shall be entered into a daily log to demonstrate compliance with the daily and 12-month rolling average limits. Daily logs shall be maintained for a period of two years following the date of such entries and shall be made available to the DNR upon request.
6. Blackhawk shall submit to the DNR written notification that construction has commenced on the proposed project permitted in Air Quality Construction Permit No. 84-A-055S1. Blackhawk shall also provide written notifications to DNR of completion of construction of the proposed project and completion the initial performance testing requirements, as specified in Air Quality Construction Permit No. 84-A-055S1. Each of these notifications shall be due no later than 30 days following the date of each activity.

Note: A complete copy of this Administrative Consent Order is attached to this permit as Appendix 6. Above requirements are from IDNR Consent Order 03-AQ-51 and are currently state enforceable only. See page 89 for more information.

NESHAP Subpart RRR

Blackhawk Foundry and Machine Co., Inc. shall comply with all applicable requirements of 40 CFR Part 63 Subpart RRR – National Emission Standards for Hazardous Air Pollutants: Secondary Aluminum Production and Subpart A – General Provisions. The affected emission unit at this facility is EP-213 – Sweat Furnace.

Appendix 1 in this permit contains a summary of the applicable requirements from 40 CFR Part 63 Subpart RRR. Blackhawk Foundry and Machine Co., Inc. must be in compliance with this subpart by March 24, 2003.

Section 112(j) of the Clean Air Act (MACT Hammer)

On May 1, 2002, Blackhawk Foundry and Machine Co., Inc. submitted a Part 1 MACT application to IDNR, indicating that the facility may be subject to the MACT standard for Iron Foundries, 40 CFR 63 Subpart EEEEE, when it's promulgated. Currently, the facility is a minor source for HAPs and will likely not be subject to the rule unless area sources are included. The final rule for this MACT was signed on August 29, 2003. Therefore, a Part 2 MACT application to DNR is not required.

Authority for Requirement: 40 CFR 63.52; 567 IAC 23.1(4)"b"(2)

Compliance Plan

The owner/operator shall comply with the applicable requirements listed below. The compliance status is based on information provided by the applicant.

Unless otherwise noted in Section III of this permit, Blackhawk Foundry and Machine Co., Inc. is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which become effective during the permit term, Blackhawk Foundry and Machine Co., Inc. shall comply with such requirements in a timely manner.

Authority for Requirement: 567 IAC 22.108(15)

III. Emission Point-Specific Conditions

Facility Name: Blackhawk Foundry and Machine Co., Inc.
Permit Number: **04-TV-003**

Emission Point ID Number: 201

Associated Equipment

Associated Emission Unit ID Numbers: EU 102
Emissions Control Equipment ID Number: CE 301 CE 303
Emissions Control Equipment Description: CE 301 – Wet Scrubber; CE 303 – Afterburner

Emission Unit vented through this Emission Point: EU 102
Emission Unit Description: Cupola
Raw Material/Fuel: Metal Melt
Rated Capacity: 18 ton/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40% ⁽¹⁾
Authority for Requirement: Iowa DNR Construction Permit 72-A-060-S5
567 IAC 23.3(2)"d"

⁽¹⁾ Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedance of the indicator opacity of 20% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. The permit holder shall also file an "indicator opacity exceedance report" with the DNR field office and keep records as required in the policy. If the exceedance continues after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: PM₁₀
Emission Limit(s): 16.07 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 72-A-060-S5

Pollutant: Particulate Matter (PM)
Emission Limit(s): 16.07 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 72-A-060-S5

Pollutant: Sulfur Dioxide (SO₂)
Emission Limit(s): 4.05 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 72-A-060-S5

Pollutant: Sulfur Dioxide (SO₂)
Emission Limit(s): 6.0 lb/MMBtu
Authority for Requirement: Iowa DNR Construction Permit 72-A-060-S5
567 IAC 23.3(3)"a"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 1.80 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 72-A-060-S5

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

1. The total metal melt of this emission unit shall not exceed 432 tons per day.
Authority for Requirement: Iowa Administrative Consent Order No. 03-AQ-51
2. The total metal melt of this emission unit shall not exceed 81,000 tons per twelve month rolling period.
Authority for Requirement: Iowa DNR Construction Permit 72-A-060-S5
Iowa Administrative Consent Order No. 03-AQ-51

Reporting & Record keeping:

All records as required by this permit shall be kept on site for at least five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. Record the total volume of metal melt in tons on a daily basis.
Authority for Requirement: Iowa Administrative Consent Order No. 03-AQ-51
 2. For the first twelve (12) months of operation, determine the cumulative metal melt for each month of operation.
 3. After the first twelve (12) months of operation, determine the annual metal melt on a rolling 12-month total for each month of operation.
- Authority for Requirement: Iowa DNR Construction Permit 72-A-060-S5
Iowa Administrative Consent Order No. 03-AQ-51

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet): 85

Stack Diameter (inches): 40

Stack Exhaust Flow Rate (scfm): 25,100

Stack Temperature (°F): 150

Vertical, Unobstructed Discharge Required: Yes ☒ No ☐

Authority for Requirement: Iowa DNR Construction Permit 72-A-060-S5

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Stack Testing

Pollutant - PM₁₀

Stack Test to be Completed by – January 14, 2008

Test Method - 40 CFR 51, Appendix M, 201A with 202 ⁽¹⁾

Authority for Requirement - 567 IAC 22.108(3)

Pollutant - Particulate Matter

Stack Test to be Completed by – January 14, 2008

Test Method - Iowa Compliance Sampling Manual Method 5

Authority for Requirement - 567 IAC 22.108(3)

⁽¹⁾ or approved alternative

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☒ ⁽¹⁾ No ☐

⁽¹⁾ Only for CE-301 Wet Scrubber

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Agency Venturi Scrubber Operation & Maintenance Plan

Monitoring Guidelines

The facility makes a commitment to take timely corrective action during periods of excursion where the indicators are out of range. A corrective action may include an investigation of the reason for the excursion, evaluation of the situation and necessary follow-up action to return operation within the indicator range. An excursion is determined by the averaged discrete data point over a period of time, or the presence of a monitored abnormal condition. An excursion does not necessarily indicate a violation of an applicable requirement. If the corrective action measures fail to return the indicators to the appropriate range, the facility will report the excursion to the department and conduct source testing within 90 days of the excursion to demonstrate compliance with applicable requirements. If the test demonstrates compliance with emission limits then new indicator ranges must be set for monitoring and the new ranges must be incorporated in the operating permit. If the test demonstrates noncompliance with emission limits, then the facility, within 60 days, proposes a schedule to implement corrective action to bring the source into compliance and demonstrate compliance.

Monitoring Methods & Corrective Actions

General

- Periodic Monitoring is not required during periods of time greater than one day in which the source does not operate.

Daily

- Visible emissions shall be observed on a daily basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed this would be an exceedence not a violation and corrective action will be taken as soon as possible, but no later than 8 hours. If weather conditions prevent the observer from conducting an observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2 hour intervals throughout the day. If unsuccessful that day due to weather, an observation shall be made the following day.
- Check and document the pressure drop across the scrubber. If the pressure drop falls out of the normal operating range (45-60 inch H₂O) corrective action will be taken within 8 hours to return the pressure drop to normal.
- Conduct observations of the stack and areas adjacent to the stack to determine if droplet reentrainment is occurring from an improperly operating mist eliminator. The signs of droplet reentrainment may include fallout of solid-containing droplets, discoloration of the stack and adjacent surfaces, or a mud lip around the stack. If droplet reentrainment is occurring, the appropriate measures for remediation will be implemented within eight (8) hours.

Weekly

- Check liquid pressure gauges on supply headers to the scrubber to monitor for problems such as nozzle pluggage, header pluggage, and nozzle erosion. Pluggage problems are indicated

by higher than normal pressures and erosion problems are indicated by less than normal pressures. If the liquid pressure is out of the normal operating range (45-60 inch H₂O) corrective action will be taken within eight (8) hours to return the pressure to normal.

Quarterly

- Conduct a walk-around inspection of the entire system to search for leaks. If leaks in the system are detected, the appropriate measures for remediation will be implemented within eight (8) hours.

Semi-annually

- Conduct an internal inspection of the scrubber to search for signs of erosion, corrosion, or solids deposits in ductwork, spray nozzles, and adjustable throat dampers. If any of these conditions exist the appropriate measures for remediation will be implemented within eight (8) hours.

Record Keeping

- Maintain a record of all inspections and any action resulting from the inspection.
- Maintenance and inspection records will be kept for five (5) years and made available upon request.

Quality Control

- All instruments and control equipment will be calibrated, maintained, and operated according to the manufacturers specifications.

Emission Point ID Number: 202 (Vents Internally)**Associated Equipment**

Associated Emission Unit ID Numbers: EU 122 and EU 123
Emissions Control Equipment ID Number: CE 308
Emissions Control Equipment Description: Wheelabrator Baghouse

Emission Unit vented through this Emission Point: EU 122
Emission Unit Description: Wheelabrator #1
Raw Material/Fuel: Metal Castings
Rated Capacity: 2 units @ 6 tons of castings/hr each

Emission Unit vented through this Emission Point: EU 123
Emission Unit Description: Grinding
Raw Material/Fuel: Metal Castings
Rated Capacity: 18 tons of castings/hr

Applicable Requirements**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): No VE ⁽¹⁾
Authority for Requirement: Iowa DNR Construction Permit 77-A-114-S1
567 IAC 23.3(2)"c"

⁽¹⁾ Per 567 IAC 23.3(2)"c", no facility shall have visible emissions that cross the lot line.

Pollutant: PM₁₀
Emission Limit(s): 2.89 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 77-A-114-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 2.89 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 77-A-114-S1

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.05 gr/dscf
Authority for Requirement: 567 IAC 23.4(6)

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

1. The total throughput of Wheelabrator #1 shall not exceed 288 tons of cleaned castings per day.

Authority for Requirement: Iowa Administrative Consent Order No. 03-AQ-51

2. The total throughput of Wheelabrator #1 shall not exceed 36,000 tons of cleaned castings per twelve (12) month rolling period.

Authority for Requirement: Iowa DNR Construction Permit 77-A-114-S1
Iowa Administrative Consent Order No. 03-AQ-51

3. The total throughput of Grinding shall not exceed 54,000 tons of finished castings per twelve (12) month rolling period.

Authority for Requirement: Iowa DNR Construction Permit 77-A-114-S1

Reporting & Record keeping:

All records as required by this permit shall be kept on site for at least five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. Record the throughput for the Wheelabrator #1 in tons on a daily basis.

Authority for Requirement: Iowa Administrative Consent Order No. 03-AQ-51

2. For the first twelve (12) months of operation, determine the cumulative throughput for the Wheelabrator #1 for each month of operation.
3. After the first twelve (12) months of operation, determine the annual throughput for the Wheelabrator #1 on a rolling 12-month total for each month of operation.

Authority for Requirement: Iowa DNR Construction Permit 77-A-114-S1
Iowa Administrative Consent Order No. 03-AQ-51

4. For the first twelve (12) months of operation, determine the cumulative throughput for the Grinding for each month of operation.
5. After the first twelve (12) months of operation, determine the annual throughput for the Grinding on a rolling 12-month total for each month of operation.

Authority for Requirement: Iowa DNR Construction Permit 77-A-114-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet): Vents into the building

Stack Diameter (inches): Vents into the building

Stack Exhaust Flow Rate (scfm): Vents into the building

Stack Temperature (°F): Vents into the building

Vertical, Unobstructed Discharge Required: Vents into the building

Authority for Requirement: Iowa DNR Construction Permit 77-A-114-S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Opacity Monitoring

Opacity shall be observed at the lot line on a weekly basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed crossing the lot line, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(14)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: 203

Associated Equipment

Associated Emission Unit ID Numbers: EU 105 and EU 134

Emissions Control Equipment ID Number: CE 304

Emissions Control Equipment Description: Baghouse

Emission Unit vented through this Emission Point: EU 105

Emission Unit Description: Casting/Sorting

Raw Material/Fuel: Metal

Rated Capacity: 18 tons of castings/hr

Emission Unit vented through this Emission Point: EU 134

Emission Unit Description: Wheelabrator #2

Raw Material/Fuel: Metal Castings

Rated Capacity: 6 tons castings/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit(s): 40% ⁽¹⁾

Authority for Requirement: Iowa DNR Construction Permit 02-A-290
567 IAC 23.3(2)"d"

⁽¹⁾ Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. The permit holder shall also file an "indicator opacity exceedance report" with the DNR field office and keep records as required in the policy. If the exceedance continues after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: PM₁₀

Emission Limit(s): 1.81 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 02-A-290

Pollutant: Particulate Matter (PM)

Emission Limit(s): 1.81 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 02-A-290

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.05 gr/dscf

Authority for Requirement: Iowa DNR Construction Permit 02-A-290
567 IAC 23.4(6)

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

1. The total throughput of Wheelabrator #2 shall not exceed 144 tons of cleaned castings per day.

Authority for Requirement: Iowa Administrative Consent Order No. 03-AQ-51

2. The total throughput of Wheelabrator #2 shall not exceed 18,000 tons of cleaned castings per twelve (12) month rolling period.

Authority for Requirement: Iowa DNR Construction Permit 02-A-290
Iowa Administrative Consent Order No. 03-AQ-51

3. The total throughput of Casting/Sorting shall not exceed 81,000 tons of castings per twelve (12) month rolling period.

Authority for Requirement: Iowa DNR Construction Permit 02-A-290

Reporting & Record keeping:

All records as required by this permit shall be kept on site for at least five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. Record the throughput for the Wheelabrator #2 in tons on a daily basis.

Authority for Requirement: Iowa Administrative Consent Order No. 03-AQ-51

2. For the first twelve (12) months of operation, determine the cumulative throughput for the Wheelabrator #2 for each month of operation.

3. After the first twelve (12) months of operation, determine the annual throughput for the Wheelabrator #2 on a rolling 12-month total for each month of operation.

Authority for Requirement: Iowa DNR Construction Permit 02-A-290
Iowa Administrative Consent Order No. 03-AQ-51

4. For the first twelve (12) months of operation, determine the cumulative throughput for the Casting/Sorting for each month of operation.

5. After the first twelve (12) months of operation, determine the annual throughput for the Casting/Sorting on a rolling 12-month total for each month of operation.

Authority for Requirement: Iowa DNR Construction Permit 02-A-290

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet): 50

Stack Diameter (inches): 36

Stack Exhaust Flow Rate (scfm): 23,700

Stack Temperature (°F): 100

Vertical, Unobstructed Discharge Required: Yes ☒ No ☐

Authority for Requirement: Iowa DNR Construction Permit 02-A-290

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Stack Testing

Pollutant - PM₁₀

Stack Test to be Completed by (date) – Within sixty (60) days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date of the proposed equipment.

Test Method - 40 CFR 51, Appendix M, 201A with 202 ⁽¹⁾

Authority for Requirement - Iowa DNR Construction Permit 02-A-290 ⁽²⁾

Pollutant - Particulate Matter

Stack Test to be Completed by (date) – Within sixty (60) days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date of the proposed equipment.

Test Method - Iowa Compliance Sampling Manual Method 5

Authority for Requirement - Iowa DNR Construction Permit 02-A-290 ⁽²⁾

⁽¹⁾ or approved alternative

⁽²⁾ these tests will satisfy the Title V periodic monitoring testing requirements

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: 204

Associated Equipment

Emission Units vented through this Emission Point

EU	EU Description	Control Equipment	Control ID	Raw Materials	Rated Capacity
103A	Cupola Ladle	Baghouse	CE-311 ⁽¹⁾	Ductile Iron	12 tons/hr
103B	Pour Deck Ladle	Baghouse	CE-311 ⁽¹⁾	Ductile Iron	6 tons/hr
106	Sand Shakeout	Baghouse BACT Scrubber	CE-311 ⁽¹⁾ CE-305	Metal Melt	18 tons castings/hr
109	Muller	Baghouse BACT Scrubber	CE-311 ⁽¹⁾ CE-305	Return Sand	130 tons/hr
112	Return Sand #1	BACT Scrubber	CE-305	Return Sand	130 tons/hr
113	Sand Cooler	BACT Scrubber	CE-305	Return Sand	130 tons/hr
114	Sand Screen	BACT Scrubber	CE-305	Return Sand	130 tons/hr
128	Return Sand #2	BACT Scrubber	CE-305	Return Sand	130 tons/hr

⁽¹⁾ Construction of the baghouse (CE-311) has been approved via IDNR Construction Permit 84-A-055-S1; however, the baghouse is not currently installed. The construction permit shall become void if construction on the project has not been initiated within eighteen (18) months after the date of issuance of this permit and completed within thirty-six (36) months after the date of the issuance of the permit (Issuance Date: August 19, 2002).

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit(s): 40% ⁽¹⁾

Authority for Requirement: Iowa DNR Construction Permit 84-A-055-S1
567 IAC 23.3(2)"d"

⁽¹⁾ Per DNR Air Quality Policy 3-b-08, Opacity Limits, an exceedance of the indicator opacity of "no visible emissions" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. The permit holder shall also file an "indicator opacity exceedance report" with the DNR field office and keep records as required in the policy. If the exceedance continues after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Pollutant: PM₁₀

Emission Limit(s): 5.46 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 84-A-055-S1

Pollutant: Particulate Matter (PM)

Emission Limit(s): 5.46 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 84-A-055-S1

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.05 gr/dscf

Authority for Requirement: Iowa DNR Construction Permit 84-A-055-S1
567 IAC 23.4(6)

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

1. The combined throughput of EU 103A (Cupola Ladle) and EU 103B (Pour Deck Ladle) shall not exceed 432 tons of melted metal per day.
2. The throughput of EU 112 (Return Sand #1) shall not exceed 3,120 tons of return sand per day.
3. The throughput of EU 112 (Return Sand #1) shall not exceed 648,960 ^(*) tons of return sand per twelve (12) month rolling period.
4. The throughput of EU 128 (Return Sand #2) shall not exceed 3,120 tons of return sand per day.
5. The throughput of EU 128 (Return Sand #2) shall not exceed 648,960 ^(*) tons of return sand per twelve (12) month rolling period.

^(*) Twelve month rolling average tons based on 4,992 hours per 12 month rolling period.

Authority for Requirement: Iowa Administrative Consent Order No. 03-AQ-51

6. The combined throughput of EU 103A (Cupola Ladle) and EU 103B (Pour Deck Ladle) shall not exceed 40,500 tons of ductile iron treated per twelve (12) month rolling period.

Authority for Requirement: Iowa DNR Construction Permit 84-A-055-S1
Iowa Administrative Consent Order No. 03-AQ-51

7. The hours of operation shall not exceed 4,992 hours per twelve (12) month rolling period for each of the following emission units: EU 106 (Sand Shakeout), EU 109 (Muller), EU 112 (Return Sand #1), EU 113 (Sand Cooler), EU 114 (Sand Screen), and EU 128 (Return Sand #2).

Authority for Requirement: Iowa DNR Construction Permit 84-A-055-S1

Reporting & Record keeping:

All records as required by this permit shall be kept on site for at least five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. Record the combined throughput of EU 103A (Cupola Ladle) and EU 103B (Pour Deck Ladle) in tons of melted metal per day.
2. Record the throughput for EU 112 (Return Sand #1) in tons of return sand on a daily basis.
3. Record the throughput for EU 112 (Return Sand #1) in tons of return sand on a rolling 12-month total for each month of operation.
4. Record the throughput for EU 128 (Return Sand #2) in tons of return sand on a daily basis.
5. Record the throughput for EU 128 (Return Sand #2) in tons of return sand on a rolling 12-month total for each month of operation.

Authority for Requirement: Iowa Administrative Consent Order No. 03-AQ-51

6. For the first twelve (12) months of operation, determine the cumulative combined melted metal throughput for EU 103A & EU 103B for each month of operation.
7. After the first twelve (12) months of operation, determine the annual combined melted metal throughput for EU 103A & EU 103B on a rolling 12-month total for each month of operation.

Authority for Requirement: Iowa DNR Construction Permit 84-A-055-S1
Iowa Administrative Consent Order No. 03-AQ-51

8. For the first twelve (12) months of operation, determine the cumulative hours of operation for each of the following emission units for each month of operation: EU 106, EU 109, EU 112, EU 113, EU 114, and EU 128.
9. After the first twelve (12) months of operation, determine the annual hours of operation for each of the following emission units on a rolling 12-month total for each month of operation: EU 106, EU 109, EU 112, EU 113, EU 114, and EU 128.

Authority for Requirement: Iowa DNR Construction Permit 84-A-055-S1

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet): 75

Stack Diameter (inches): 56

Stack Exhaust Flow Rate (scfm): 81,000

Stack Temperature (°F): 130

Vertical, Unobstructed Discharge Required: Yes ☒ No ☐

Authority for Requirement: Iowa DNR Construction Permit 84-A-055-S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the

emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Stack Testing

Pollutant - PM₁₀

Stack Test to be Completed by (date) – Within sixty (60) days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date of the proposed equipment.

Test Method - 40 CFR 51, Appendix M, 201A with 202 ⁽¹⁾

Authority for Requirement - Iowa DNR Construction Permit 84-A-055-S1 ⁽²⁾

Pollutant - Particulate Matter

Stack Test to be Completed by (date) – Within sixty (60) days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date of the proposed equipment.

Test Method - Iowa Compliance Sampling Manual Method 5

Authority for Requirement - Iowa DNR Construction Permit 84-A-055-S1 ⁽²⁾

⁽¹⁾ or approved alternative

⁽²⁾ these tests will satisfy the Title V periodic monitoring testing requirements

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: 205 (Vents Internally)

Associated Equipment

Associated Emission Unit ID Number: EU 107
Emissions Control Equipment ID Number: CE 306
Emissions Control Equipment Description: Bagfilter

Emission Unit vented through this Emission Point: EU 107
Emission Unit Description: Mold Sand Silo
Raw Material/Fuel: Mold Sand
Rated Capacity: 60 tons sand/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): No VE ⁽¹⁾
Authority for Requirement: Iowa DNR Construction Permit 02-A-291
567 IAC 23.3(2)"c"

⁽¹⁾ Per 567 IAC 23.3(2)"c", no facility shall have visible emissions that cross the lot line.

Pollutant: PM₁₀
Emission Limit(s): 0.81 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 02-A-291

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.81 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 02-A-291

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.05 gr/dscf
Authority for Requirement: 567 IAC 23.4(6)

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

1. The total throughput shall not exceed 1,440 tons of sand per day.

Authority for Requirement: Iowa Administrative Consent Order No. 03-AQ-51

2. The total throughput shall not exceed 52,560 tons of sand per twelve (12) month rolling period.

Authority for Requirement: Iowa DNR Construction Permit 02-A-291

Iowa Administrative Consent Order No. 03-AQ-51

Reporting & Record keeping:

All records as required by this permit shall be kept on site for at least five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. Record throughput in tons of sand on a daily basis.

Authority for Requirement: Iowa Administrative Consent Order No. 03-AQ-51

2. For the first twelve (12) months of operation, determine the cumulative throughput for each month of operation.
3. After the first twelve (12) months of operation, determine the annual throughput on a rolling 12-month total for each month of operation.

Authority for Requirement: Iowa DNR Construction Permit 02-A-291

Iowa Administrative Consent Order No. 03-AQ-51

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet): Vents into the building

Stack Diameter (inches): Vents into the building

Stack Exhaust Flow Rate (scfm): Vents into the building

Stack Temperature (°F): Vents into the building

Vertical, Unobstructed Discharge Required: Vents into the building

Authority for Requirement: Iowa DNR Construction Permit 02-A-291

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Opacity Monitoring

Opacity shall be observed at the lot line on a weekly basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed crossing the lot line, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(14)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: 206 (Vents Internally)

Associated Equipment

Associated Emission Unit ID Number: EU 108
Emissions Control Equipment ID Number: CE 307
Emissions Control Equipment Description: Bond Silo Vent Bagfilter

Emission Unit vented through this Emission Point: EU 108
Emission Unit Description: Bond Storage
Raw Material/Fuel: Bond
Rated Capacity: 60 ton/hr

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): No VE ⁽¹⁾
Authority for Requirement: Iowa DNR Construction Permit 02-A-292
567 IAC 23.3(2)"c"

⁽¹⁾ Per 567 IAC 23.3(2)"c", no facility shall have visible emissions that cross the lot line.

Pollutant: PM₁₀
Emission Limit(s): 0.81 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 02-A-292

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.81 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 02-A-292

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

1. The total throughput shall not exceed 1,440 tons of bond per day.

Authority for Requirement: Iowa Administrative Consent Order No. 03-AQ-51

2. The total throughput shall not exceed 52,560 tons of bond per twelve (12) month rolling period.

Authority for Requirement: Iowa DNR Construction Permit 02-A-292

Iowa Administrative Consent Order No. 03-AQ-51

Reporting & Record keeping:

All records as required by this permit shall be kept on site for at least five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. Record throughput in tons of bond on a daily basis.

Authority for Requirement: Iowa Administrative Consent Order No. 03-AQ-51

2. For the first twelve (12) months of operation, determine the cumulative throughput for each month of operation.

3. After the first twelve (12) months of operation, determine the annual throughput on a rolling 12-month total for each month of operation.

Authority for Requirement: Iowa DNR Construction Permit 02-A-292

Iowa Administrative Consent Order No. 03-AQ-51

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet): Vents into the building

Stack Diameter (inches): Vents into the building

Stack Exhaust Flow Rate (scfm): Vents into the building

Stack Temperature (°F): Vents into the building

Vertical, Unobstructed Discharge Required: Vents into the building

Authority for Requirement: Iowa DNR Construction Permit 02-A-292

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Opacity Monitoring

Opacity shall be observed at the lot line on a weekly basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed crossing the lot line, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(14)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP-207 (Vents Internally)**Associated Equipment**

Associated Emission Unit ID Number: EU 104, EU 110 and EU 111

Emissions Control Equipment ID Number: None

Emission Unit vented through this Emission Point: EU 104

Emission Unit Description: Mold Pouring/Cooling

Raw Material/Fuel: Metal Melt

Rated Capacity: 18 ton/hr

Emission Unit vented through this Emission Point: EU 110

Emission Unit Description: Mold Making

Raw Material/Fuel: Sand

Rated Capacity: 130 ton/hr

Emission Unit vented through this Emission Point: EU 111

Emission Unit Description: Sand Transfer

Raw Material/Fuel: Mold Sand

Rated Capacity: 130 ton/hr

Applicable Requirements**Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)**

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Fugitive Dust

Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

1. The total throughput for EU 104 (Mold Pouring/Cooling) shall not exceed 432 tons of metal melt per day.
2. The total throughput for EU 104 (Mold Pouring/Cooling) shall not exceed 157,680 tons of metal melt per twelve (12) month rolling period.

Authority for Requirement: Iowa Administrative Consent Order No. 03-AQ-51

Reporting & Record keeping:

All records as required by this permit shall be kept on site for at least five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. Record throughput for EU 104 (Mold Pouring/Cooling) in tons of metal melt on a daily basis.
2. Record throughput for EU 104 (Mold Pouring/Cooling) in tons of metal melt on a rolling 12-month total for each month of operation

Authority for Requirement: Iowa Administrative Consent Order No. 03-AQ-51

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP-208 (Vents Internally)

Associated Equipment

Associated Emission Unit ID Number: EU 116
Emissions Control Equipment ID Number: None

Emission Unit vented through this Emission Point: EU 116
Emission Unit Description: Shell Core Making
Raw Material/Fuel: Resin Sand
Rated Capacity: 13.3 ton/hr

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Fugitive Dust

Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP-210 (Vents Internally)

Associated Equipment

Associated Emission Unit ID Number: EU 119
Emissions Control Equipment ID Number: None

Emission Unit vented through this Emission Point: EU 119
Emission Unit Description: Warmbox Core Making
Raw Material/Fuel: Resin
Rated Capacity: 3.9 tons/hr

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Fugitive Dust

Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP-211**Associated Equipment**

Associated Emission Unit ID Number: EU 127
Emissions Control Equipment ID Number: None

Emission Unit vented through this Emission Point: EU 127
Emission Unit Description: Plant Heating
Raw Material/Fuel: Natural Gas
Rated Capacity: 0.015 MMcf/hr

Applicable Requirements**Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)**

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.6 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(2)"b"

Pollutant: Sulfur Dioxide (SO₂)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: 213 (Vents Internally)**Associated Equipment*****Emission Units vented through this Emission Point***

EU	EU Description	Control Equipment	Control ID	Raw Materials	Rated Capacity
129	Induction Furnace	Recycle Baghouse	CE-310	Aluminum	750 lbs/hr
130	Aluminum Sweat Furnace	Recycle Baghouse	CE-310	Aluminum	300 lbs/hr
131	Sweat Furnace Burner	Recycle Baghouse	CE-310	Natural Gas	0.001 MMcf/hr

Applicable Requirements**Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)**

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity

Emission Limit(s): No VE ⁽¹⁾

Authority for Requirement: Iowa DNR Construction Permit 02-A-293
567 IAC 23.3(2)"c"

⁽¹⁾ Per 567 IAC 23.3(2)"c", no facility shall have visible emissions that cross the lot line.

Pollutant: PM₁₀

Emission Limit(s): 0.024 lb/hr

Authority for Requirement: Iowa DNR Construction Permit 02-A-293

Pollutant: Particulate Matter (PM)

Emission Limit(s): 0.1 gr/dscf

Authority for Requirement: 567 IAC 23.3(2)"a"

Pollutant: Dioxins and Furans (D/F)

Emission Limit(s): 0.80 ng/dscm (TEQ) ^(2,3)

Authority for Requirement: Iowa DNR Construction Permit 02-A-293

⁽²⁾ See also 40 CFR § 63.1500 (Subpart RRR – National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production).

⁽³⁾ 0.80 ng/dscm = 3.5 X 10⁻¹⁰ gr/dscf. Limit is corrected to 11% O₂.

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

Operating limits for the Aluminum Sweat Furnace unit shall be:

- A. Per 40 CFR §63.1506, the owner or operator shall:
 - (1) Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates as published by the American Conference of Governmental Industrial Hygienists (ACGIH) in chapters 3 and 5 of “Industrial Ventilation: A Manual of Recommended Practice” (incorporated by reference in 40 CFR §63.1502 of Subpart RRR⁽¹⁾).
 - (2) Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to a fabric filter, and
 - (3) Operate each capture/collection system according to the procedures and requirements in the operation, maintenance, and monitoring (OM&M) plan.
- B. Per 40 CFR §63.1510(d)(2), the facility shall conduct an annual inspection of the capture, collection, and transport systems to ensure that systems continue to operate in accordance with ACGIH standards.
- C. Per 40 CFR §63.1510, the owner or operator shall prepare and implement an OM&M plan.

Reporting & Record keeping:

All records as required by this permit shall be kept on site for at least five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. These records shall show the following:

- A. Monitoring for NESHAP Subpart RRR⁽¹⁾ at the facility (plant number 82-01-004) shall be done per 40 CFR §63.1510.
- B. Recordkeeping for NESHAP Subpart RRR⁽¹⁾ at the facility (plant number 82-01-004) shall be done per 40 CFR §63.1517.

⁽¹⁾ For a summary of the requirements pertaining to NESHAP Subpart RRR, see Appendix 1 in this permit.

Authority for Requirement: Iowa DNR Construction Permit 02-A-293
567 IAC 23.1(4)"br"
40 CFR 63 Subpart RRR

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet): Vents into the Recycle Building

Stack Diameter (inches): Vents into the Recycle Building

Stack Exhaust Flow Rate (scfm): Vents into the Recycle Building

Stack Temperature (°F): Vents into the Recycle Building

Vertical, Unobstructed Discharge Required: Vents into the Recycle Building

Authority for Requirement: Iowa DNR Construction Permit 02-A-293

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Opacity Monitoring

Opacity shall be observed at the lot line on a weekly basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed crossing the lot line, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(14)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☒ No ☐

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP-214⁽¹⁾

Associated Equipment

Associated Emission Unit ID Number: EU 133
Emissions Control Equipment ID Number: CE 312
Emissions Control Equipment Description: Sulfuric Acid Scrubber

⁽¹⁾ Construction of this emission unit and control equipment have been approved via IDNR Construction Permit 02-A-116; however, the equipment is not currently installed. The construction permit shall become void if construction on the project has not been initiated within eighteen (18) months after the date of issuance of this permit and completed within thirty-six (36) months after the date of the issuance of the permit (Issuance Date: August 19, 2002).

Emission Unit vented through this Emission Point: EU 133
Emission Unit Description: Coldbox Core Machine
Raw Material/Fuel: Core Sand
Rated Capacity: 2.0 tons/hr

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): No VE ⁽¹⁾
Authority for Requirement: Iowa DNR Construction Permit 02-A-116
567 IAC 23.3(2)"c"

⁽¹⁾ Per 567 IAC 23.3(2)"c", no facility shall have visible emissions that cross the lot line.

Pollutant: PM₁₀
Emission Limit(s): 0.65 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 02-A-116

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.65 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 02-A-116

Pollutant: Particulate Matter (PM)
Emission Limit(s): 0.05 gr/dscf
Authority for Requirement: 567 IAC 23.4(6)

Pollutant: Volatile Organic Compounds (VOC)
Emission Limit(s): 1.5 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 02-A-116

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

1. The total core production of this emission unit shall not exceed 16,000 tons of cores per twelve (12) month rolling period.

Reporting & Record keeping:

All records as required by this permit shall be kept on site for at least five (5) years and shall be available for inspection by the DNR. Records shall be legible and maintained in an orderly manner. These records shall show the following:

1. For the first twelve (12) months of operation, determine the cumulative tons of cores produced for each month of operation.
2. After the first twelve (12) months of operation, determine the annual tons of cores produced on a rolling 12-month total for each month of operation.

Authority for Requirement: Iowa DNR Construction Permit 02-A-116

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height (feet): 27

Stack Diameter (inches): 12

Stack Exhaust Flow Rate (scfm): 2,400

Stack Temperature (°F): 70

Vertical, Unobstructed Discharge Required: Yes ☒ No ☐

Authority for Requirement: Iowa DNR Construction Permit 02-A-116

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Opacity Monitoring

Opacity shall be observed at the lot line on a weekly basis to ensure no visible emissions during the material handling operation of the unit. If visible emissions are observed crossing the lot

line, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years.

Authority for Requirement: 567 IAC 22.108(14)

Stack Testing

Pollutant - PM₁₀

Stack Test to be Completed by (date) – Within sixty (60) days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date of the proposed equipment.

Test Method - 40 CFR 51, Appendix M, 201A with 202 ⁽¹⁾

Authority for Requirement - Iowa DNR Construction Permit 02-A-116

Pollutant - Particulate Matter

Stack Test to be Completed by (date) – Within sixty (60) days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date of the proposed equipment.

Test Method - Iowa Compliance Sampling Manual Method 5

Authority for Requirement - Iowa DNR Construction Permit 02-A-116

Pollutant – Volatile Organic Compounds (VOC)

Stack Test to be Completed by (date) – Within sixty (60) days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date of the proposed equipment.

Test Method - 40 CFR 60, Appendix A, Method 25A ⁽¹⁾

Authority for Requirement - Iowa DNR Construction Permit 02-A-116

⁽¹⁾ or approved alternative

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

Emission Point ID Number: EP-218 (Fugitive)

Associated Equipment

Associated Emission Unit ID Number: EU 101
Emissions Control Equipment ID Number: None

Emission Unit vented through this Emission Point: EU 101
Emission Unit Description: Scrap and Charge
Raw Material/Fuel: Scrap Metal
Rated Capacity: 18.0 tons/hr

Applicable Requirements

Emission Limits (lb/hr, gr/dscf, lb/MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Fugitive Dust

Emission Limit: No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered, repaired or demolished, without taking reasonable precautions to prevent a nuisance. All persons shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate.

Authority for Requirement: 567 IAC 23.3(2)"c"

Periodic Monitoring Requirements

The owner/operator of this equipment shall comply with the periodic monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? Yes ☐ No ☒

Facility Maintained Operation & Maintenance Plan Required? Yes ☐ No ☒

Authority for Requirement: 567 IAC 22.108(3)"b"

IV. General Conditions

This permit is issued under the authority of the Iowa Code subsection 455B.133(8) and in accordance with 567 Iowa Administrative Code chapter 22.

G1. Duty to Comply

1. The permittee must comply with all conditions of the Title V permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. *567 IAC 22.108(9)"a"*
2. Any compliance schedule shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based. *567 IAC 22.105 (2)"h"(3)*
3. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be enforceable by the administrator and are incorporated into this permit. *567 IAC 22.108 (1)"b"*
4. Unless specified as either "state enforceable only" or "local program enforceable only", all terms and conditions in the permit, including provisions to limit a source's potential to emit, are enforceable by the administrator and citizens under the Act. *567 IAC 22.108 (14)*
5. It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. *567 IAC 22.108 (9)"b"*

G2. Permit Expiration

1. Except as provided in 567 IAC 22.104, the expiration of this permit terminates the permittee's right to operate unless a timely and complete application has been submitted for renewal. Any testing required for renewal shall be completed before the application is submitted. *567 IAC 22.116(2)*
2. To be considered timely, the owner, operator, or designated representative (where applicable) of each source required to obtain a Title V permit shall present or mail the Air Quality Bureau, Iowa Department of Natural Resources, Air Quality Bureau, 7900 Hickman Rd, Suite #1, Urbandale, Iowa 50322, two copies (three if your facility is located in Linn or Polk county) of a complete permit application, at least 6 months but not more than 18 months prior to the date of permit expiration. An additional copy must also be sent to EPA Region VII, Attention: Chief of Air Permits, 901 N. 5th St., Kansas City, KS 66101. The application must include all emission points, emission units, air pollution control equipment, and monitoring devices at the facility. All emissions generating activities, including fugitive emissions, must be included. The definition of a complete application is as indicated in 567 IAC 22.105(2). *567 IAC 22.105*

G3. Certification Requirement for Title V Related Documents

Any application, report, compliance certification or other document submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. *567 IAC 22.107 (4)*

G4. Annual Compliance Certification

By March 31 of each year, the permittee shall submit compliance certifications for the previous calendar year. The certifications shall include descriptions of means to monitor the compliance status of all emissions sources including emissions limitations, standards, and work practices in accordance with applicable requirements. The certification for a source shall include the identification of each term or condition of the permit that is the basis of the certification; the

compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, currently and over the reporting period consistent with all applicable department rules. For sources determined not to be in compliance at the time of compliance certification, a compliance schedule shall be submitted which provides for periodic progress reports, dates for achieving activities, milestones, and an explanation of why any dates were missed and preventive or corrective measures. The compliance certification shall be submitted to the administrator, director, and the appropriate DNR Field office. *567 IAC 22.108 (15)"e"*

G5. Semi-Annual Monitoring Report

By March 31 and September 30 of each year, the permittee shall submit a report of any monitoring required under this permit for the 6 month periods of July 1 to December 31 and January 1 to June 30, respectively. All instances of deviations from permit requirements must be clearly identified in these reports, and the report must be signed by a responsible official, consistent with 567 IAC 22.107(4). The semi-annual monitoring report shall be submitted to the director and the appropriate DNR Field office. *567 IAC 22.108 (5)*

G6. Annual Fee

1. The permittee is required under subrule 567 IAC 22.106 to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. Beginning July 1, 1996, Title V operating permit fees will be paid on July 1 of each year. The fee shall be based on emissions for the previous calendar year.
2. The fee amount shall be calculated based on the first 4,000 tons of each regulated air pollutant emitted each year. The fee to be charged per ton of pollutant will be available from the department by June 1 of each year. The Responsible Official will be advised of any change in the annual fee per ton of pollutant.
3. The following forms shall be submitted annually by March 31 documenting actual emissions for the previous calendar year.
 - a. Form 1.0 "Facility Identification";
 - b. Form 4.0 "Emissions unit-actual operations and emissions" for each emission unit;
 - c. Form 5.0 "Title V annual emissions summary/fee"; and
 - d. Part 3 "Application certification."
4. The fee shall be submitted annually by July 1. The fee shall be submitted with the following forms:
 - a. Form 1.0 "Facility Identification";
 - b. Form 5.0 "Title V annual emissions summary/fee";
 - c. Part 3 "Application certification."
5. If there are any changes to the emission calculation form, the department shall make revised forms available to the public by January 1. If revised forms are not available by January 1, forms from the previous year may be used and the year of emissions documented changed. The department shall calculate the total statewide Title V emissions for the prior calendar year and make this information available to the public no later than April 30 of each year.
6. Phase I acid rain affected units under section 404 of the Act shall not be required to pay a fee for emissions which occur during the years 1993 through 1999 inclusive.
7. The fee for a portable emissions unit or stationary source which operates both in Iowa and out of state shall be calculated only for emissions from the source while operating in Iowa.
8. Failure to pay the appropriate Title V fee represents cause for revocation of the Title V permit as indicated in 567 IAC 22.115(1)"d".

G7. Inspection of Premises, Records, Equipment, Methods and Discharges

Upon presentation of proper credentials and any other documents as may be required by law, the permittee shall allow the director or the director's authorized representative to:

1. Enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. Sample or monitor, at reasonable times, substances or parameters for the purpose of ensuring compliance with the permit or other applicable requirements. *567 IAC 22.108 (15)"b"*

G8. Duty to Provide Information

The permittee shall furnish to the director, within a reasonable time, any information that the director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the director copies of records required to be kept by the permit, or for information claimed to be confidential, the permittee shall furnish such records directly to the administrator of EPA along with a claim of confidentiality. *567 IAC 22.108 (9)"e"*

G9. General Maintenance and Repair Duties

The owner or operator of any air emission source or control equipment shall:

1. Maintain and operate the equipment or control equipment at all times in a manner consistent with good practice for minimizing emissions.
2. Remedy any cause of excess emissions in an expeditious manner.
3. Minimize the amount and duration of any excess emission to the maximum extent possible during periods of such emissions. These measures may include but not be limited to the use of clean fuels, production cutbacks, or the use of alternate process units or, in the case of utilities, purchase of electrical power until repairs are completed.
4. Schedule, at a minimum, routine maintenance of equipment or control equipment during periods of process shutdowns to the maximum extent possible. *567 IAC 24.2(1)*

G10. Recordkeeping Requirements for Compliance Monitoring

1. In addition to any source specific recordkeeping requirements contained in this permit, the permittee shall maintain the following compliance monitoring records, where applicable:

- a. The date, place and time of sampling or measurements
- b. The date the analyses were performed.
- c. The company or entity that performed the analyses.
- d. The analytical techniques or methods used.
- e. The results of such analyses; and
- f. The operating conditions as existing at the time of sampling or measurement.
- g. The records of quality assurance for continuous compliance monitoring systems (including but not limited to quality control activities, audits and calibration drifts.)

2. The permittee shall retain records of all required compliance monitoring data and support information for a period of at least 5 years from the date of compliance monitoring sample, measurement report or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous compliance monitoring, and copies of all reports required by the permit.

3. For any source which in its application identified reasonably anticipated alternative operating scenarios, the permittee shall:
 - a. Comply with all terms and conditions of this permit specific to each alternative scenario.
 - b. Maintain a log at the permitted facility of the scenario under which it is operating.
 - c. Consider the permit shield, if provided in this permit, to extend to all terms and conditions under each operating scenario. *567 IAC 22.108(4), 567 IAC 22.108(12)*

G11. Evidence used in establishing that a violation has or is occurring.

Notwithstanding any other provisions of these rules, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any provisions herein.

1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at a source:
 - a. A monitoring method approved for the source and incorporated in an operating permit pursuant to 567 Chapter 22;
 - b. Compliance test methods specified in 567 Chapter 25; or
 - c. Testing or monitoring methods approved for the source in a construction permit issued pursuant to 567 Chapter 22.
2. The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:
 - a. Any monitoring or testing methods provided in these rules; or
 - b. Other testing, monitoring, or information gathering methods that produce information comparable to that produced by any method in subrule 21.5(1) or this subrule. *567 IAC 21.5(1)-567 IAC 21.5(2)*

G12. Prevention of Accidental Release: Risk Management Plan Notification and Compliance Certification

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Act, the permittee shall notify the department of this requirement. The plan shall be filed with all appropriate authorities by the deadline specified by EPA. A certification that this risk management plan is being properly implemented shall be included in the annual compliance certification of this permit. *567 IAC 22.108(6)*

G13. Hazardous Release

The permittee must report any situation involving the actual, imminent, or probable release of a hazardous substance into the atmosphere which, because of the quantity, strength and toxicity of the substance, creates an immediate or potential danger to the public health, safety or to the environment. A verbal report shall be made to the department at (515) 281-8694 and to the local police department or the office of the sheriff of the affected county as soon as possible but not later than six hours after the discovery or onset of the condition. This verbal report must be followed up with a written report as indicated in 567 IAC 131.2(2). *567 IAC Chapter 131-State Only*

G14. Excess Emissions and Excess Emissions Reporting Requirements

1. Excess Emissions. Excess emission during a period of startup, shutdown, or cleaning of control equipment is not a violation of the emission standard if the startup, shutdown or cleaning is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions. Cleaning of control equipment which does not require the shutdown of the process equipment shall be limited to one six-minute period per one-hour period. An incident of excess emission (other than an incident during startup, shutdown or cleaning of control equipment) is a

violation. If the owner or operator of a source maintains that the incident of excess emission was due to a malfunction, the owner or operator must show that the conditions which caused the incident of excess emission were not preventable by reasonable maintenance and control measures. Determination of any subsequent enforcement action will be made following review of this report. If excess emissions are occurring, either the control equipment causing the excess emission shall be repaired in an expeditious manner or the process generating the emissions shall be shutdown within a reasonable period of time. An expeditious manner is the time necessary to determine the cause of the excess emissions and to correct it within a reasonable period of time. A reasonable period of time is eight hours plus the period of time required to shut down the process without damaging the process equipment or control equipment. In the case of an electric utility, a reasonable period of time is eight hours plus the period of time until comparable generating capacity is available to meet consumer demand with the affected unit out of service, unless, the director shall, upon investigation, reasonably determine that continued operation constitutes an unjustifiable environmental hazard and issue an order that such operation is not in the public interest and require a process shutdown to commence immediately.

2. Excess Emissions Reporting

a. Oral Reporting of Excess Emissions. An incident of excess emission (other than an incident of excess emission during a period of startup, shutdown, or cleaning) shall be reported to the appropriate field office of the department within eight hours of, or at the start of the first working day following the onset of the incident. The reporting exemption for an incident of excess emission during startup, shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in 567-subrule 25.1(6). An oral report of excess emission is not required for a source with operational continuous monitoring equipment (as specified in 567-subrule 25.1(1)) if the incident of excess emission continues for less than 30 minutes and does not exceed the applicable visible emission standard by more than 10 percent opacity. The oral report may be made in person or by telephone and shall include as a minimum the following:

- i. The identity of the equipment or source operation from which the excess emission originated and the associated stack or emission point.
- ii. The estimated quantity of the excess emission.
- iii. The time and expected duration of the excess emission.
- iv. The cause of the excess emission.
- v. The steps being taken to remedy the excess emission.
- vi. The steps being taken to limit the excess emission in the interim period.

b. Written Reporting of Excess Emissions. A written report of an incident of excess emission shall be submitted as a follow-up to all required oral reports to the department within seven days of the onset of the upset condition, and shall include as a minimum the following:

- i. The identity of the equipment or source operation point from which the excess emission originated and the associated stack or emission point.
- ii. The estimated quantity of the excess emission.
- iii. The time and duration of the excess emission.
- iv. The cause of the excess emission.
- v. The steps that were taken to remedy and to prevent the recurrence of the incident of excess emission.

- vi. The steps that were taken to limit the excess emission.
- vii. If the owner claims that the excess emission was due to malfunction, documentation to support this claim. *567 IAC 24.1(1)-567 IAC 24.1(4)*

3. Emergency Defense for Excess Emissions. For the purposes of this permit, an “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include non-compliance, to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation or operator error. An emergency constitutes an affirmative defense to an action brought for non-compliance with technology based limitations if it can be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that:

- a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;
- b. The facility at the time was being properly operated;
- c. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements of the permit; and
- d. The permittee submitted notice of the emergency to the director by certified mail within two working days of the time when the emissions limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. *567 IAC 22.108(16)*

G15. Permit Deviation Reporting Requirements

A deviation is any failure to meet a term, condition or applicable requirement in the permit. Reporting requirements for deviations that result in a hazardous release or excess emissions have been indicated above (see G13 and G14). Unless more frequent deviation reporting is specified in the permit, any other deviation shall be documented in the semi-annual monitoring report and the annual compliance certification (see G4 and G5). *567 IAC 22.108(5)"b"*

G16. Notification Requirements for Sources That Become Subject to NSPS and NESHAP Regulations

During the term of this permit, the permittee must notify the department of any source that becomes subject to a standard or other requirement under 567-subrule 23.1(2) (standards of performance of new stationary sources) or section 111 of the Act; or 567-subrule 23.1(3) (emissions standards for hazardous air pollutants), 567-subrule 23.1(4) (emission standards for hazardous air pollutants for source categories) or section 112 of the Act. This notification shall be submitted in writing to the department pursuant to the notification requirements in 40 CFR Section 60.7, 40 CFR Section 61.07, and/or 40 CFR Section 63.9. *567 IAC 23.1(2), 567 IAC 23.1(3), 567 IAC 23.1(4)*

G17. Requirements for Making Changes to Emission Sources That Do Not Require Title V Permit Modification

- 1. Off Permit Changes to a Source. Pursuant to section 502(b)(10) of the CAAA, the permittee may make changes to this installation/facility without revising this permit if:
 - a. The changes are not major modifications under any provision of any program required by section 110 of the Act, modifications under section 111 of the act, modifications under section 112 of the act, or major modifications as defined in 567 IAC Chapter 22.

- b. The changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions);
- c. The changes are not modifications under any provisions of Title I of the Act and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or as total emissions);
- d. The changes are not subject to any requirement under Title IV of the Act.
- e. The changes comply with all applicable requirements.
- f. For such a change, the permitted source provides to the department and the administrator by certified mail, at least 30 days in advance of the proposed change, a written notification, including the following, which must be attached to the permit by the source, the department and the administrator:
 - i. A brief description of the change within the permitted facility,
 - ii. The date on which the change will occur,
 - iii. Any change in emission as a result of that change,
 - iv. The pollutants emitted subject to the emissions trade
 - v. If the emissions trading provisions of the state implementation plan are invoked, then Title V permit requirements with which the source shall comply; a description of how the emissions increases and decreases will comply with the terms and conditions of the Title V permit.
 - vi. A description of the trading of emissions increases and decreases for the purpose of complying with a federally enforceable emissions cap as specified in and in compliance with the Title V permit; and
 - vii. Any permit term or condition no longer applicable as a result of the change.

567 IAC 22.110(1)

2. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements. *567 IAC 22.110(2)*

3. Notwithstanding any other part of this rule, the director may, upon review of a notice, require a stationary source to apply for a Title V permit if the change does not meet the requirements of subrule 22.110(1). *567 IAC 22.110(3)*

4. The permit shield provided in subrule 22.108(18) shall not apply to any change made pursuant to this rule. Compliance with the permit requirements that the source will meet using the emissions trade shall be determined according to requirements of the state implementation plan authorizing the emissions trade. *567 IAC 22.110(4)*

5. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes, for changes that are provided for in this permit. *567 IAC 22.108(11)*

G18. Duty to Modify a Title V Permit

1. Administrative Amendment.

- a. An administrative permit amendment is a permit revision that is required to do any of the following:
 - i. Correct typographical errors
 - ii. Identify a change in the name, address, or telephone number of any person identified in the permit, or provides a similar minor administrative change at the source;

- iii. Require more frequent monitoring or reporting by the permittee; or
 - iv. Allow for a change in ownership or operational control of a source where the director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittee has been submitted to the director.
 - b. The permittee may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request. The request shall be submitted to the director.
 - c. Administrative amendments to portions of permits containing provisions pursuant to Title IV of the Act shall be governed by regulations promulgated by the administrator under Title IV of the Act.
2. Minor Permit Modification.
- a. Minor permit modification procedures may be used only for those permit modifications that do any of the following:
 - i. Do not violate any applicable requirements
 - ii. Do not involve significant changes to existing monitoring, reporting or recordkeeping requirements in the Title V permit.
 - iii. Do not require or change a case by case determination of an emission limitation or other standard, or increment analysis.
 - iv. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include any federally enforceable emissions caps which the source would assume to avoid classification as a modification under any provision under Title I of the Act; and an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Act.;
 - v. Are not modifications under any provision of Title I of the Act; and
 - vi. Are not required to be processed as significant modification.
 - b. An application for minor permit revision shall be on the minor Title V modification application form and shall include at least the following:
 - i. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs.
 - ii. The permittee's suggested draft permit
 - iii. Certification by a responsible official, pursuant to 567 IAC 22.107(4), that the proposed modification meets the criteria for use of a minor permit modification procedures and a request that such procedures be used; and
 - iv. Completed forms to enable the department to notify the administrator and the affected states as required by 567 IAC 22.107(7).
 - c. The permittee may make the change proposed in its minor permit modification application immediately after it files the application. After the permittee makes this change and until the director takes any of the actions specified in 567 IAC 22.112(4) "a" to "c", the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time, the permittee need not comply with the existing permit terms and conditions it seeks to modify.

However, if the permittee fails to comply with its proposed permit terms and conditions during this time period, existing permit terms and conditions it seeks to modify may subject the facility to enforcement action.

3. Significant Permit Modification. Significant Title V modification procedures shall be used for applications requesting Title V permit modifications that do not qualify as minor Title V modifications or as administrative amendments. These include but are not limited to all significant changes in monitoring permit terms, every relaxation of reporting or recordkeeping permit terms, and any change in the method of measuring compliance with existing requirements. Significant Title V modifications shall meet all requirements of 567 IAC Chapter 22, including those for applications, public participation, review by affected states, and review by the administrator, and those requirements that apply to Title V issuance and renewal. *567 IAC 22.111-567 IAC 22.113* The permittee shall submit an application for a significant permit modification not later than three months after commencing operation of the changed source unless the existing Title V permit would prohibit such construction or change in operation, in which event the operation of the changed source may not commence until the department revises the permit. *567 IAC 22.105(1)"a"(4)*

G19. Duty to Obtain Construction Permits

Unless exempted under 567 IAC 22.1(2), the permittee must not construct, install, reconstruct, or alter any equipment, control equipment or anaerobic lagoon without first obtaining a construction permit, conditional permit, or permit pursuant to 567 IAC 22.8, or permits required pursuant to 567 IAC 22.4 and 567 IAC 22.5. Such permits shall be obtained prior to the initiation of construction, installation or alteration of any portion of the stationary source. *567 IAC 22.1(1)*

G20. Asbestos

The permittee shall comply with 567 IAC 23.1(3)"a", and 567 IAC 23.2(3)"g" when conducting any renovation or demolition activities at the facility. *567 IAC 23.1(3)"a", and 567 IAC 23.2*

G21. Open Burning

The permittee is prohibited from conducting open burning, except as may be allowed by 567 IAC 23.2. *567 IAC 23.2 except 23.2(3)"h"; 567 IAC 23.2(3)"h" - State Only*

G22. Acid Rain (Title IV) Emissions Allowances

The permittee shall not exceed any allowances that it holds under Title IV of the Act or the regulations promulgated there under. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners and operators of the unit or the designated representative of the owners and operators is prohibited. Exceedences of applicable emission rates are prohibited. "Held" in this context refers to both those allowances assigned to the owners and operators by USEPA, and those allowances supplementally acquired by the owners and operators. The use of any allowance prior to the year for which it was allocated is prohibited. Contravention of any other provision of the permit is prohibited. *567 IAC 22.108(7)*

G23. Stratospheric Ozone and Climate Protection (Title VI) Requirements

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:

a. All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to § 82.106.

b. The placement of the required warning statement must comply with the requirements pursuant to § 82.108.

- c. The form of the label bearing the required warning statement must comply with the requirements pursuant to § 82.110.
 - d. No person may modify, remove, or interfere with the required warning statement except as described in § 82.112.
- 2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:
 - a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156.
 - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158.
 - c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to § 82.161.
 - d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with reporting and recordkeeping requirements pursuant to § 82.166. ("MVAC-like appliance" as defined at § 82.152)
 - e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to § 82.156.
 - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.
- 3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.
- 4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant.
- 5. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *40 CFR part 82*

G24. Permit Reopenings

- 1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *567 IAC 22.108(9)"c"*
- 2. Additional applicable requirements under the Act become applicable to a major part 70 source with a remaining permit term of 3 or more years. Revisions shall be made as expeditiously as practicable, but not later than 18 months after the promulgation of such standards and regulations.
 - a. Reopening and revision on this ground is not required if the permit has a remaining term of less than three years;

- b. Reopening and revision on this ground is not required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii) as amended to June 25, 1993.
 - c. Reopening and revision on this ground is not required if the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. *567 IAC 22.108(17)"a", 567 IAC 22.108(17)"b"*
- 3. A permit shall be reopened and revised under any of the following circumstances:
 - a. The department receives notice that the administrator has granted a petition for disapproval of a permit pursuant to 40 CFR 70.8(d) as amended to June 25, 1993, provided that the reopening may be stayed pending judicial review of that determination;
 - b. The department or the administrator determines that the Title V permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Title V permit;
 - c. Additional applicable requirements under the Act become applicable to a Title V source, provided that the reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. Such a reopening shall be complete not later than 18 months after promulgation of the applicable requirement.
 - d. Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the acid rain program. Upon approval by the administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.
 - e. The department or the administrator determines that the permit must be revised or revoked to ensure compliance by the source with the applicable requirements. *567 IAC 22.114(1)*
- 4. Proceedings to reopen and reissue a Title V permit shall follow the procedures applicable to initial permit issuance and shall effect only those parts of the permit for which cause to reopen exists. *567 IAC 22.114(2)*

G25. Permit Shield

- 1. The director may expressly include in a Title V permit a provision stating that compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that:
 - a. Such applicable requirements are included and are specifically identified in the permit; or
 - b. The director, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.
- 2. A Title V permit that does not expressly state that a permit shield exists shall be presumed not to provide such a shield.
- 3. A permit shield shall not alter or affect the following:
 - a. The provisions of Section 303 of the Act (emergency orders), including the authority of the administrator under that section;

- b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;
- c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;
- d. The ability of the department or the administrator to obtain information from the facility pursuant to Section 114 of the Act. *567 IAC 22.108 (18)*

G26. Severability

The provisions of this permit are severable and if any provision or application of any provision is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding. *567 IAC 22.108 (8)*

G27. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege. *567 IAC 22.108 (9)"d"*

G28. Transferability

This permit is not transferable from one source to another. If title to the facility or any part of it is transferred, an administrative amendment to the permit must be sought to determine transferability of the permit. *567 IAC 22.111 (1)"d"*

G29. Disclaimer

No review has been undertaken on the engineering aspects of the equipment or control equipment other than the potential of that equipment for reducing air contaminant emissions. *567 IAC 22.3(3)"c"*

G30. Notification and Reporting Requirements for Stack Tests or Monitor Certification

The permittee shall notify the department's stack test contact in writing not less than 30 days before a required test or performance evaluation of a continuous emission monitor is performed to determine compliance with an applicable requirement. For the department to consider test results a valid demonstration of compliance with applicable rules or a permit condition, such notice shall be given. Such notice shall include the time, the place, the name of the person who will conduct the test and other information as required by the department. Unless specifically waived by the department's stack test contact, a pretest meeting shall be held not later than 15 days prior to conducting the compliance demonstration. The department may accept a testing protocol in lieu of a pretest meeting. A representative of the department shall be permitted to witness the tests. Results of the tests shall be submitted in writing to the department's stack test contact in the form of a comprehensive report within six weeks of the completion of the testing. Compliance tests conducted pursuant to this permit shall be conducted with the source operating in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which the source shall be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the equipment manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the department that the source has been physically altered so that capacity cannot be exceeded, or the department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the department to determine whether such source is in compliance.

Stack test notifications, reports and correspondence shall be sent to:

Stack Test Review Coordinator
Iowa DNR, Air Quality Bureau
7900 Hickman Road, Suite #1
Urbandale, IA 50322
(515) 242-6001

Within Polk and Linn Counties, stack test notifications, reports and correspondence shall also be directed to the supervisor of the respective county air pollution program.

567 IAC 25.1(7)"a", 567 IAC 25.1(9)

G31. Prevention of Air Pollution Emergency Episodes

The permittee shall comply with the provisions of 567 IAC Chapter 26 in the prevention of excessive build-up of air contaminants during air pollution episodes, thereby preventing the occurrence of an emergency due to the effects of these contaminants on the health of persons.

567 IAC 26.1(1)

G32. Contacts List

The current address and phone number for reports and notifications to the EPA administrator is:

Chief of Air Permits
EPA Region 7
Air Permits and Compliance Branch
901 N. 5th Street
Kansas City, KS 66101
(913) 551-7020

The current address and phone number for reports and notifications to the department or the Director is:

Chief, Air Quality Bureau
Iowa Department of Natural Resources
7900 Hickman Road, Suite #1
Urbandale, IA 50322
(515) 242-5100

Reports or notifications to the DNR Field Offices or local programs shall be directed to the supervisor at the appropriate field office or local program. Current addresses and phone numbers are:

Field Office 1

909 West Main – Suite 4
Manchester, IA 52057
(563) 927-2640

Field Office 2

P.O. Box 1443
2300-15th St., SW
Mason City, IA 50401
(641) 424-4073

Field Office 3

1900 N. Grand Ave.
Spencer, IA 51301
(712) 262-4177

Field Office 4

1401 Sunnyside Lane
Atlantic, IA 50022
(712) 243-1934

Field Office 5

401 SW 7th Street, Suite I
Des Moines, IA 50309
(515) 725-0268

Field Office 6

1023 West Madison Street
Washington, Iowa 52353-1623
(319) 653-2135

Polk County Planning & Development

Air Quality Division
5885 NE 14th St.
Des Moines, IA 50313
(515) 286-3351

Linn County Public Health Dept.

Air Pollution Control Division
501 13th St., NW
Cedar Rapids, IA 52405
(319) 892-6000

V. Appendix 1 – 40 CFR Part 63 Subpart RRR: Summary Document

The Permittee shall comply with all applicable requirements of 40 CFR 63 Subpart RRR: National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production (567 IAC 23. (4)"br"). Below is a summary of the applicable requirements.

(Note: Citation numbering is consistent with 40 CFR Part 63. Requirements to which Blackhawk Foundry and Machine Co., Inc. are not subject have been removed. These citations are provided for reference only. If the Subpart RRR Requirements are modified in the future, Blackhawk Foundry and Machine Co., Inc. is responsible for demonstrating compliance with 40 CFR 63 Subpart RRR as printed in the Federal Register regardless of whether the citations listed below are modified.)

§ 63.1500 Applicability.

(a) The requirements of this subpart apply to the owner or operator of each secondary aluminum production facility.

(b) The requirements of this subpart apply to the following affected sources, located at a secondary aluminum production facility that is a major source of hazardous air pollutants (HAPs) as defined in § 63.2:

- (1) Each new and existing aluminum scrap shredder;
- (2) Each new and existing thermal chip dryer;
- (3) Each new and existing scrap dryer/delacquering kiln/decoating kiln;
- (4) Each new and existing group 2 furnace;
- (5) Each new and existing sweat furnace;
- (6) Each new and existing dross-only furnace;
- (7) Each new and existing rotary dross cooler; and
- (8) Each new and existing secondary aluminum processing unit.

(c) The requirements of this subpart pertaining to dioxin and furan (D/F) emissions and associated operating, monitoring, reporting and recordkeeping requirements apply to the following affected sources, located at a secondary aluminum production facility that is an area source of HAPs as defined in § 63.2:

- (1) Each new and existing thermal chip dryer;
- (2) Each new and existing scrap dryer/delacquering kiln/decoating kiln;
- (3) Each new and existing sweat furnace;
- (4) Each new and existing secondary aluminum processing unit, containing one or more group 1 furnace emission units processing other than clean charge.

(d) The requirements of this subpart do not apply to manufacturers of aluminum die castings, aluminum foundries, or aluminum extruders that melt no materials other than clean charge and materials generated within the facility; and that also do not operate a thermal chip dryer, sweat furnace or scrap dryer/delacquering kiln/decoating kiln.

(e) The requirements of this subpart do not apply to facilities and equipment used for research and development that are not used to produce a saleable product.

(f) The owner or operator of a secondary aluminum production facility subject to the provisions of this subpart, is subject to the title V permitting requirements under 40 CFR parts 70 and 71, as applicable. The permitting authority may defer the affected facility from the title V permitting requirements until December 9, 2004, if the secondary aluminum production facility is not a

major source and is not located at a major source as defined under 40 CFR 63.2, 70.2, or 71.2, and is not otherwise required to obtain a title V permit. If an affected facility receives a deferral from title V permitting requirements under this section, the source must submit a title V permit application by December 9, 2005. The affected facility must continue to comply with the provisions of this subpart applicable to area sources, even if a deferral from title V permitting requirements has been granted to the facility by the permitting authority.

§ 63.1501 Dates.

- (a) The owner or operator of an existing affected source must comply with the requirements of this subpart by March 24, 2003.
- (b) Except as provided in paragraph (c) of this section, the owner or operator of a new affected source that commences construction or reconstruction after February 11, 1999 must comply with the requirements of this subpart by March 24, 2000 or upon startup, whichever is later.
- (c) The owner or operator of any affected source which is constructed or reconstructed at any existing aluminum die casting facility, aluminum foundry, or aluminum extrusion facility which otherwise meets the applicability criteria set forth in § 63.1500 must comply with the requirements of this subpart by March 24, 2003 or upon startup, whichever is later.

§ 63.1505 Emission standards for affected sources and emission units.

- (f) *Sweat furnace.* The owner or operator of a sweat furnace shall comply with the emission standard of paragraph (f)(2) of this section.
 - (1) The owner or operator is not required to conduct a performance test to demonstrate compliance with the emission standard of paragraph (f)(2) of this section, provided that, on and after the compliance date of this rule, the owner or operator operates and maintains an afterburner with a design residence time of two seconds or greater and an operating temperature of 1600 °F or greater.
 - (2) On and after the compliance date established by § 63.1501, the owner or operator of a sweat furnace at a secondary aluminum production facility that is a major or area source must not discharge or cause to be discharged to the atmosphere emissions in excess of 0.80 nanogram (ng) of D/F TEQ per dscm (3.5×10^{-10} gr per dscf) at 11 percent oxygen (O₂).

§ 63.1506 Operating requirements.

- (a) *Summary.*
 - (1) On and after the compliance date established by § 63.1501, the owner or operator must operate all new and existing affected sources and control equipment according to the requirements in this section.
 - (2) The completion of the initial performance tests for SAPUs shall be considered to be the date of approval of the OM&M plan by the permitting authority.
 - (3) The owner or operator of an existing sweat furnace that meets the specifications of § 63.1505(f)(1) must operate the sweat furnace and control equipment according to the requirements of this section on and after the compliance date of this standard.
 - (4) The owner or operator of a new sweat furnace that meets the specifications of § 63.1505(f)(1) must operate the sweat furnace and control equipment according to the requirements of this section by March 23, 2000 or upon startup, whichever is later.

(c) *Capture/collection systems.* For each affected source or emission unit equipped with an add-on air pollution control device, the owner or operator must:

- (1) Design and install a system for the capture and collection of emissions to meet the engineering standards for minimum exhaust rates as published by the American Conference of Governmental Industrial Hygienists in chapters 3 and 5 of "Industrial Ventilation: A Manual of Recommended Practice" (incorporated by reference in § 63.1502 of this subpart);
- (2) Vent captured emissions through a closed system, except that dilution air may be added to emission streams for the purpose of controlling temperature at the inlet to a fabric filter; and
- (3) Operate each capture/collection system according to the procedures and requirements in the OM&M plan.

(p) *Corrective action.* When a process parameter or add-on air pollution control device operating parameter deviates from the value or range established during the performance test and incorporated in the OM&M plan, the owner or operator must initiate corrective action.

Corrective action must restore operation of the affected source or emission unit (including the process or control device) to its normal or usual mode of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. Corrective actions taken must include follow-up actions necessary to return the process or control device parameter level(s) to the value or range of values established during the performance test and steps to prevent the likely recurrence of the cause of a deviation.

§ 63.1510 Monitoring requirements.

(a) *Summary.* On and after the compliance date established by § 63.1501, the owner or operator of a new or existing affected source or emission unit must monitor all control equipment and processes according to the requirements in this section. Monitoring requirements for each type of affected source and emission unit are summarized in Table 3 to this subpart.

(b) *Operation, maintenance, and monitoring (OM&M) plan.* The plan must be accompanied by a written certification by the owner or operator that the OM&M plan satisfies all requirements of this section and is otherwise consistent with the requirements of this subpart. The owner or operator must comply with all of the provisions of the OM&M plan as submitted to the permitting authority, unless and until the plan is revised in accordance with the following procedures. If the permitting authority determines at any time after receipt of the OM&M plan that any revisions of the plan are necessary to satisfy the requirements of this section or this subpart, the owner or operator must promptly make all necessary revisions and resubmit the revised plan. If the owner or operator determines that any other revisions of the OM&M plan are necessary, such revisions will not become effective until the owner or operator submits a description of the changes and a revised plan incorporating them to the permitting authority. Each plan must contain the following information:

- (1) Process and control device parameters to be monitored to determine compliance, along with established operating levels or ranges, as applicable, for each process and control device.
- (2) A monitoring schedule for each affected source and emission unit.
- (3) Procedures for the proper operation and maintenance of each process unit and add-on control device used to meet the applicable emission limits or standards in § 63.1505.
- (4) Procedures for the proper operation and maintenance of monitoring devices or systems used to determine compliance, including:

- (i) Calibration and certification of accuracy of each monitoring device, at least once every 6 months, according to the manufacturer's instructions; and
 - (ii) Procedures for the quality control and quality assurance of continuous emission or opacity monitoring systems as required by the general provisions in subpart A of this part.
- (5) Procedures for monitoring process and control device parameters, including procedures for annual inspections of afterburners, and if applicable, the procedure to be used for determining charge/feed (or throughput) weight if a measurement device is not used.
- (6) Corrective actions to be taken when process or operating parameters or add-on control device parameters deviate from the value or range established in paragraph (b)(1) of this section, including:
- (i) Procedures to determine and record the cause of an deviation or excursion, and the time the deviation or excursion began and ended; and
 - (ii) Procedures for recording the corrective action taken, the time corrective action was initiated, and the time/date corrective action was completed.
- (7) A maintenance schedule for each process and control device that is consistent with the manufacturer's instructions and recommendations for routine and long-term maintenance.
- (8) Documentation of the work practice and pollution prevention measures used to achieve compliance with the applicable emission limits and a site-specific monitoring plan as required in paragraph (o) of this section for each group 1 furnace not equipped with an add-on air pollution control device.
- (d) *Capture/collection system.* The owner or operator must:
- (1) Install, operate, and maintain a capture/collection system for each affected source and emission unit equipped with an add-on air pollution control device; and
 - (2) Inspect each capture/collection and closed vent system at least once each calendar year to ensure that each system is operating in accordance with the operating requirements in § 63.1506(c) and record the results of each inspection.
- (f) *Fabric filters and lime-injected fabric filters.* The owner or operator of an affected source or emission unit using a fabric filter or lime-injected fabric filter to comply with the requirements of this subpart must install, calibrate, maintain, and continuously operate a bag leak detection system as required in paragraph (f)(1) of this section or a continuous opacity monitoring system as required in paragraph (f)(2) of this section. The owner or operator of an aluminum scrap shredder must install and operate a bag leak detection system as required in paragraph (f)(1) of this section, install and operate a continuous opacity monitoring system as required in paragraph (f)(2) of this section, or conduct visible emission observations as required in paragraph (f)(3) of this section.
- (1) These requirements apply to the owner or operator of a new or existing affected source or existing emission unit using a bag leak detection system.
- (i) The owner or operator must install and operate a bag leak detection system for each exhaust stack of a fabric filter.
 - (ii) Each triboelectric bag leak detection system must be installed, calibrated, operated, and maintained according to the "Fabric Filter Bag Leak Detection Guidance," (September 1997). This document is available from the U.S. Environmental Protection Agency; Office of Air Quality Planning and Standards; Emissions, Monitoring and Analysis Division; Emission Measurement Center (MD-19), Research Triangle Park, NC 27711. This document also is available on the Technology Transfer Network (TTN) under Emission

Measurement Technical Information (EMTIC), Continuous Emission Monitoring. Other bag leak detection systems must be installed, operated, calibrated, and maintained in a manner consistent with the manufacturer's written specifications and recommendations.

(iii) The bag leak detection system must be certified by the manufacturer to be capable of detecting PM emissions at concentrations of 10 milligrams per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(iv) The bag leak detection system sensor must provide output of relative or absolute PM loadings.

(v) The bag leak detection system must be equipped with a device to continuously record the output signal from the sensor.

(vi) The bag leak detection system must be equipped with an alarm system that will sound automatically when an increase in relative PM emissions over a preset level is detected. The alarm must be located where it is easily heard by plant operating personnel.

(vii) For positive pressure fabric filter systems, a bag leak detection system must be installed in each baghouse compartment or cell. For negative pressure or induced air fabric filters, the bag leak detector must be installed downstream of the fabric filter.

(viii) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(ix) The baseline output must be established by adjusting the range and the averaging period of the device and establishing the alarm set points and the alarm delay time.

(x) Following initial adjustment of the system, the owner or operator must not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time except as detailed in the OM&M plan. In no case may the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365-day period unless such adjustment follows a complete fabric filter inspection which demonstrates that the fabric filter is in good operating condition.

§ 63.1511 Performance test/compliance demonstration general requirements.

(a) *Site-specific test plan.* Prior to conducting any performance test required by this subpart, the owner or operator must prepare a site-specific test plan which satisfies all of the requirements, and must obtain approval of the plan pursuant to the procedures, set forth in § 63.7(c).

(b) *Initial performance test.* Following approval of the site-specific test plan, the owner or operator must demonstrate initial compliance with each applicable emission, equipment, work practice, or operational standard for each affected source and emission unit, and report the results in the notification of compliance status report as described in § 63.1515(b). The owner or operator of any existing affected source for which an initial performance test is required to demonstrate compliance must conduct this initial performance test no later than the date for compliance established by § 63.1501(a). The owner or operator of any new affected source for which an initial performance test is required must conduct this initial performance test within 90 days after the date for compliance established by § 63.1501(b). Except for the date by which the performance test must be conducted, the owner or operator must conduct each performance test in accordance with the requirements and procedures set forth in § 63.7(c). Owners or operators of affected sources located at facilities which are area sources are subject only to those performance testing requirements pertaining to D/F. Owners or operators of sweat furnaces meeting the specifications of § 63.1505(f)(1) are not required to conduct a performance test.

- (1) The owner or operator must conduct each test while the affected source or emission unit is operating at the highest production level with charge materials representative of the range of materials processed by the unit and, if applicable, at the highest reactive fluxing rate.
 - (2) Each performance test for a continuous process must consist of 3 separate runs; pollutant sampling for each run must be conducted for the time period specified in the applicable method or, in the absence of a specific time period in the test method, for a minimum of 3 hours.
 - (3) Each performance test for a batch process must consist of three separate runs; pollutant sampling for each run must be conducted over the entire process operating cycle.
 - (4) Where multiple affected sources or emission units are exhausted through a common stack, pollutant sampling for each run must be conducted over a period of time during which all affected sources or emission units complete at least 1 entire process operating cycle or for 24 hours, whichever is shorter.
 - (5) Initial compliance with an applicable emission limit or standard is demonstrated if the average of three runs conducted during the performance test is less than or equal to the applicable emission limit or standard.
- (c) *Test methods.* The owner or operator must use the following methods in appendix A to 40 CFR part 60 to determine compliance with the applicable emission limits or standards:
- (1) Method 1 for sample and velocity traverses.
 - (2) Method 2 for velocity and volumetric flow rate.
 - (3) Method 3 for gas analysis.
 - (4) Method 4 for moisture content of the stack gas.
 - (5) Method 5 for the concentration of PM.
 - (6) Method 9 for visible emission observations.
 - (7) Method 23 for the concentration of D/F.
 - (8) Method 25A for the concentration of THC, as propane.
 - (9) Method 26A for the concentration of HCl. Where a lime-injected fabric filter is used as the control device to comply with the 90 percent reduction standard, the owner or operator must measure the fabric filter inlet concentration of HCl at a point before lime is introduced to the system.
- (d) *Alternative methods.* The owner or operator may use an alternative test method, subject to approval by the Administrator.
- (e) *Repeat tests.* The owner or operator of new or existing affected sources and emission units located at secondary aluminum production facilities that are major sources must conduct a performance test every 5 years following the initial performance test.
- (f) *Testing of representative emission units.* With the prior approval of the permitting authority, an owner or operator may utilize emission rates obtained by testing a particular type of group 1 furnace which is not controlled by any add-on control device, or by testing an in-line flux box which is not controlled by any add-on control device, to determine the emission rate for other units of the same type at the same facility. Such emission test results may only be considered to be representative of other units if all of the following criteria are satisfied:
- (1) The tested emission unit must use feed materials and charge rates which are comparable to the emission units that it represents;
 - (2) The tested emission unit must use the same type of flux materials in the same proportions as the emission units it represents;

- (3) The tested emission unit must be operated utilizing the same work practices as the emission units that it represents;
- (4) The tested emission unit must be of the same design as the emission units that it represents; and
- (5) The tested emission unit must be tested under the highest load or capacity reasonably expected to occur for any of the emission units that it represents.

(g) *Establishment of monitoring and operating parameter values.* The owner or operator of new or existing affected sources and emission units must establish a minimum or maximum operating parameter value, or an operating parameter range for each parameter to be monitored as required by § 63.1510 that ensures compliance with the applicable emission limit or standard. To establish the minimum or maximum value or range, the owner or operator must use the appropriate procedures in this section and submit the information required by § 63.1515(b)(4) in the notification of compliance status report. The owner or operator may use existing data in addition to the results of performance tests to establish operating parameter values for compliance monitoring provided each of the following conditions are met to the satisfaction of the applicable permitting authority:

- (1) The complete emission test report(s) used as the basis of the parameter(s) is submitted.
- (2) The same test methods and procedures as required by this subpart were used in the test.
- (3) The owner or operator certifies that no design or work practice changes have been made to the source, process, or emission control equipment since the time of the report.
- (4) All process and control equipment operating parameters required to be monitored were monitored as required in this subpart and documented in the test report.

§ 63.1512 Performance test/compliance demonstration requirements and procedures.

(f) *Sweat furnace.* Except as provided in § 63.1505(f)(1), the owner or operator must measure emissions of D/F from each sweat furnace at the outlet of the control device.

§ 63.1515 Notifications.

(a) *Initial notifications.* The owner or operator must submit initial notifications to the applicable permitting authority as described in paragraphs (a)(1) through (7) of this section.

- (1) As required by § 63.9(b)(1), the owner or operator must provide notification for an area source that subsequently increases its emissions such that the source is a major source subject to the standard.
- (2) As required by § 63.9(b)(3), the owner or operator of a new or reconstructed affected source, or a source that has been reconstructed such that it is an affected source, that has an initial startup after the effective date of this subpart and for which an application for approval of construction or reconstruction is not required under § 63.5(d), must provide notification that the source is subject to the standard.
- (3) As required by § 63.9(b)(4), the owner or operator of a new or reconstructed major affected source that has an initial startup after the effective date of this subpart and for which an application for approval of construction or reconstruction is required by § 63.5(d) must provide the following notifications:
 - (i) Intention to construct a new major affected source, reconstruct a major source, or reconstruct a major source such that the source becomes a major affected source;
 - (ii) Date when construction or reconstruction was commenced (submitted simultaneously with the application for approval of construction or reconstruction if construction or

- reconstruction was commenced before the effective date of this subpart, or no later than 30 days after the date construction or reconstruction commenced if construction or reconstruction commenced after the effective date of this subpart);
- (iii) Anticipated date of startup; and
 - (iv) Actual date of startup.
- (4) As required by § 63.9(b)(5), after the effective date of this subpart, an owner or operator who intends to construct a new affected source or reconstruct an affected source subject to this subpart, or reconstruct a source such that it becomes an affected source subject to this subpart, must provide notification of the intended construction or reconstruction. The notification must include all the information required for an application for approval of construction or reconstruction as required by § 63.5(d). For major sources, the application for approval of construction or reconstruction may be used to fulfill these requirements.
- (i) The application must be submitted as soon as practicable before the construction or reconstruction is planned to commence (but no sooner than the effective date) if the construction or reconstruction commences after the effective date of this subpart; or
 - (ii) The application must be submitted as soon as practicable before startup but no later than 90 days after the effective date of this subpart if the construction or reconstruction had commenced and initial startup had not occurred before the effective date.
- (5) As required by § 63.9(d), the owner or operator must provide notification of any special compliance obligations for a new source.
- (6) As required by § 63.9(e) and (f), the owner or operator must provide notification of the anticipated date for conducting performance tests and visible emission observations. The owner or operator must notify the Administrator of the intent to conduct a performance test at least 60 days before the performance test is scheduled; notification of opacity or visible emission observations for a performance test must be provided at least 30 days before the observations are scheduled to take place.
- (7) As required by § 63.9(g), the owner or operator must provide additional notifications for sources with continuous emission monitoring systems or continuous opacity monitoring systems.
- (b) *Notification of compliance status report.* Each owner or operator of an existing affected source must submit a notification of compliance status report within 60 days after the compliance date established by § 63.1501(a). Each owner or operator of a new affected source must submit a notification of compliance status report within 90 days after conducting the initial performance test required by § 63.1511(b), or within 90 days after the compliance date established by § 63.1501(b) if no initial performance test is required.
- (1) All information required in § 63.9(h). The owner or operator must provide a complete performance test report for each affected source and emission unit for which a performance test is required. A complete performance test report includes all data, associated measurements, and calculations (including visible emission and opacity tests).
 - (2) The approved site-specific test plan and performance evaluation test results for each continuous monitoring system (including a continuous emission or opacity monitoring system).
 - (3) Unit labeling as described in § 63.1506(b), including process type or furnace classification and operating requirements.
 - (4) The compliant operating parameter value or range established for each affected source or emission unit with supporting documentation and a description of the procedure used to

establish the value (*e.g.*, lime injection rate, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature), including the operating cycle or time period used in the performance test.

(5) Design information and analysis, with supporting documentation, demonstrating conformance with the requirements for capture/collection systems in § 63.1506(c).

(6) If applicable, analysis and supporting documentation demonstrating conformance with EPA guidance and specifications for bag leak detection systems in § 63.1510(f).

(7) Manufacturer's specification or analysis documenting the design residence time of no less than 1 second for each afterburner used to control emissions from a scrap dryer/delacquering kiln/decoating kiln subject to alternative emission standards in § 63.1505(e).

(8) Manufacturer's specification or analysis documenting the design residence time of no less than 0.8 seconds and design operating temperature of no less than 1,600 [deg]F for each afterburner used to control emissions from a sweat furnace that is not subject to a performance test.

(9) The OM&M plan (including site-specific monitoring plan for each group 1 furnace with no add-on air pollution control device).

(10) Startup, shutdown, and malfunction plan, with revisions.

§ 63.1516 Reports.

(a) *Startup, shutdown, and malfunction plan/reports.* The owner or operator must develop and implement a written plan as described in § 63.6(e)(3) that contains specific procedures to be followed for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and air pollution control equipment used to comply with the standard. The owner or operator shall also keep records of each event as required by § 63.10(b) and record and report if an action taken during a startup, shutdown, or malfunction is not consistent with the procedures in the plan as described in § 63.6(e)(3). In addition to the information required in § 63.6(e)(3), the plan must include:

(1) Procedures to determine and record the cause of the malfunction and the time the malfunction began and ended; and

(2) Corrective actions to be taken in the event of a malfunction of a process or control device, including procedures for recording the actions taken to correct the malfunction or minimize emissions.

(b) *Excess emissions/summary report.* As required by § 63.10(e)(3), the owner or operator must submit semiannual reports within 60 days after the end of each 6-month period. Each report must contain the information specified in § 63.10(c). When no deviations of parameters have occurred, the owner or operator must submit a report stating that no excess emissions occurred during the reporting period.

(1) A report must be submitted if any of these conditions occur during a 6-month reporting period:

(i) The corrective action specified in the OM&M plan for a bag leak detection system alarm was not initiated within 1 hour.

(ii) The corrective action specified in the OM&M plan for a continuous opacity monitoring deviation was not initiated within 1 hour.

(iii) The corrective action specified in the OM&M plan for visible emissions from an aluminum scrap shredder was not initiated within 1 hour.

- (iv) An excursion of a compliant process or operating parameter value or range (*e.g.*, lime injection rate or screw feeder setting, total reactive chlorine flux injection rate, afterburner operating temperature, fabric filter inlet temperature, definition of acceptable scrap, or other approved operating parameter).
 - (v) An action taken during a startup, shutdown, or malfunction was not consistent with the procedures in the plan as described in § 63.6(e)(3).
 - (vi) An affected source (including an emission unit in a secondary aluminum processing unit) was not operated according to the requirements of this subpart.
 - (vii) A deviation from the 3-day, 24-hour rolling average emission limit for a secondary aluminum processing unit.
- (3) The owner or operator must submit the results of any performance test conducted during the reporting period, including one complete report documenting test methods and procedures, process operation, and monitoring parameter ranges or values for each test method used for a particular type of emission point tested.
- (c) *Annual compliance certifications.* For the purpose of annual certifications of compliance required by 40 CFR part 70 or 71, the owner or operator must certify continuing compliance based upon, but not limited to, the following conditions:
- (1) Any period of excess emissions, as defined in paragraph (b)(1) of this section, that occurred during the year were reported as required by this subpart; and
 - (2) All monitoring, recordkeeping, and reporting requirements were met during the year.

§ 63.1517 Records

- (a) As required by § 63.10(b), the owner or operator shall maintain files of all information (including all reports and notifications) required by the general provisions and this subpart.
- (1) The owner or operator must retain each record for at least 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. The most recent 2 years of records must be retained at the facility. The remaining 3 years of records may be retained off site.
 - (2) The owner or operator may retain records on microfilm, computer disks, magnetic tape, or microfiche; and
 - (3) The owner or operator may report required information on paper or on a labeled computer disk using commonly available and EPA-compatible computer software.
- (b) In addition to the general records required by § 63.10(b), the owner or operator of a new or existing affected source (including an emission unit in a secondary aluminum processing unit) must maintain records of:
- (1) For each affected source and emission unit with emissions controlled by a fabric filter or a lime-injected fabric filter:
 - (i) If a bag leak detection system is used, the number of total operating hours for the affected source or emission unit during each 6-month reporting period, records of each alarm, the time of the alarm, the time corrective action was initiated and completed, and a brief description of the cause of the alarm and the corrective action(s) taken.
 - (ii) If a continuous opacity monitoring system is used, records of opacity measurement data, including records where the average opacity of any 6-minute period exceeds 5 percent, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed, and the corrective action taken.

- (iii) If an aluminum scrap shredder is subject to visible emission observation requirements, records of all Method 9 observations, including records of any visible emissions during a 30-minute daily test, with a brief explanation of the cause of the emissions, the time the emissions occurred, the time corrective action was initiated and completed, and the corrective action taken.
- (6) For each continuous monitoring system, records required by § 63.10(c).
- (7) For each affected source and emission unit subject to an emission standard in kg/Mg (lb/ton) of feed/charge, records of feed/charge (or throughput) weights for each operating cycle or time period used in the performance test.
- (8) Approved site-specific monitoring plan for a group 1 furnace without add-on air pollution control devices with records documenting conformance with the plan.
- (9) Records of all charge materials for each thermal chip dryer, dross-only furnace, and group 1 melting/holding furnaces without air pollution control devices processing only clean charge.
- (10) Operating logs for each group 1 sidewall furnace with add-on air pollution control devices documenting conformance with operating standards for maintaining the level of molten metal above the top of the passage between the sidewall and hearth during reactive flux injection and for adding reactive flux only to the sidewall or a furnace hearth equipped with a control device for PM, HCl, and D/F emissions.
- (11) Operating logs for each in-line fluxer using no reactive flux materials documenting each flux gas, agent, or material used during each operating cycle.
- (12) Records of all charge materials and fluxing materials or agents for a group 2 furnace.
- (13) Records of monthly inspections for proper unit labeling for each affected source and emission unit subject to labeling requirements.
- (14) Records of annual inspections of emission capture/collection and closed vent systems.
- (15) Records for any approved alternative monitoring or test procedure.
- (16) Current copy of all required plans, including any revisions, with records documenting conformance with the applicable plan, including:
 - (i) Startup, shutdown, and malfunction plan;
 - (ii) OM&M plan; and
 - (iii) Site-specific secondary aluminum processing unit emission plan (if applicable).
- (17) For each secondary aluminum processing unit, records of total charge weight, or if the owner or operator chooses to comply on the basis of aluminum production, total aluminum produced for each 24-hour period and calculations of 3-day, 24-hour rolling average emissions.

VI. Appendix 2 – Table 2 to Subpart RRR: Summary of Operating Requirements for New and Existing Affected Sources and Emission Units

Affected source/emission unit	Monitor type/operation/ process	Operating requirements
All affected sources and emission units with an add-on air pollution control device.	Emission capture and collection system.	Design and install in accordance with Industrial Ventilation: A Handbook of Recommended Practice; operate in accordance with OM&M plan. ^b
All affected sources and emission units subject to production-based (lb/ton of feed) emission limits ^a .	Charge/feed weight or Production weight.	Operate a device that records the weight of each charge; Operate in accordance with OM&M plan. ^b
Group 1 furnace, group 2 furnace, in-line fluxer and scrap dryer/delacquering kiln/decoating kiln.	Labeling.....	Identification, operating parameter ranges and operating requirements posted at affected sources and emission units; control device temperature and residence time requirements posted at scrap dryer/delacquering kiln/decoating kiln.
Aluminum scrap shredder with fabric filter.	Bag leak detector or.....	Initiate corrective action within 1-hr of alarm and complete in accordance with OM&M plan ^b ; operate such that alarm does not sound more than 5% of operating time in 6-month period.
	COM or.....	Initiate corrective action within 1-hr of a 6-minute average opacity reading of 5% or more and complete in accordance with OM&M plan. ^b
	VE.....	Initiate corrective action within 1-hr of any observed VE and complete in accordance with the OM&M plan. ^b
Thermal chip dryer with afterburner.....	Afterburner operating temperature.	Maintain average temperature for each 3-hr period at or above average operating temperature during the performance test.
	Afterburner operation..... Feed material.....	Operate in accordance with OM&M plan. ^b Operate using only unpainted aluminum chips.
Scrap dryer/delacquering kiln/decoating kiln with afterburner and lime-injected fabric filter.	Afterburner operating temperature.	Maintain average temperature for each 3-hr period at or above average operating temperature during the performance test.
	Afterburner operation..... Bag leak detector or.....	Operate in accordance with OM&M plan. ^b Initiate corrective action within 1-hr of alarm and complete in accordance with the OM&M plan; ^b operate such that alarm does not sound more than 5% of operating time in 6-month period.
	COM.....	Initiate corrective action within 1-hr of a 6-minute average opacity reading of 5% or more and complete in accordance with the OM&M plan. ^b

	Fabric filter inlet temperature.	Maintain average fabric filter inlet temperature for each 3-hr period at or below average temperature during the performance test +14 °C (+25 °F).
	Lime injection rate.....	Maintain free-flowing lime in the feed hopper or silo at all times for continuous injection systems; maintain feeder setting at level established during the performance test for continuous injection systems.
Sweat furnace with afterburner.....	Afterburner operating temperature	If a performance test was conducted, maintain average temperature for each 3-hr period at or above average operating temperature during the performance test; if a performance test was not conducted, and afterburner meets specifications of Sec. 63.1505(f)(1), maintain average temperature for each 3-hr period at or above 1600 °F.
	Afterburner operation.....	Operate in accordance with OM&M plan. ^b
Dross-only furnace with fabric filter...	Bag leak detector or.....	Initiate corrective action within 1-hr of alarm and complete in accordance with the OM&M plan; ^b operate such that alarm does not sound more than 5% of operating time in 6-month period.
	COM.....	Initiate corrective action within 1-hr of a 6-minute average opacity reading of 5% or more and complete in accordance with the OM&M plan. ^b
	Feed/charge material.....	Operate using only dross as the feed material.
Rotary dross cooler with fabric filter..	Bag leak detector or.....	Initiate corrective action within 1-hr of alarm and complete in accordance with the OM&M plan; ^b operate such that alarm does not sound more than 5% of operating time in 6-month period.
	COM.....	Initiate corrective action within 1-hr of a 6-minute average opacity reading of 5% or more and complete in accordance with the OM&M plan. ^b
In-line fluxer with lime-injected fabric filter (including those that are part of a secondary aluminum processing unit).	Bag leak detector or.....	Initiate corrective action within 1-hr of alarm and complete in accordance with the OM&M plan; ^b operate such that alarm does not sound more than 5% of operating time in 6-month period.
	COM.....	Initiate corrective action within 1-hr of a 6-minute average opacity reading of 5% or more and complete in accordance with the OM&M plan. ^b
	Lime injection rate.....	Maintain free-flowing lime in the feed hopper or silo at all times for continuous injection systems; maintain

In-line fluxer (using no reactive flux material).	Reactive flux injection rate.	feeder setting at level established during performance test for continuous injection systems. Maintain reactive flux injection rate at or below rate used during the performance test for each operating cycle or time period used in the performance test.
	Flux materials.....	Use no reactive flux.
	Bag leak detector or.....	Initiate corrective action within 1-hr of alarm; operate such that alarm does not sound more than 5% of operating time in 6-month period; complete corrective action in accordance with the OM&M plan. ^b
	COM.....	Initiate corrective action within 1-hr of a 6-minute average opacity reading of 5% or more; complete corrective action in accordance with the OM&M plan. ^b
	Fabric filter inlet temperature.	Maintain average fabric filter inlet temperature for each 3-hour period at or below average temperature during the performance test +14 & °C (+25 °F).
	Reactive flux injection rate.	Maintain reactive flux injection rate (lb/hr) at or below rate used during the performance test for each furnace cycle.
Group 1 furnace with lime-injected fabric filter (including those that are part of a secondary aluminum processing unit).	Lime injection rate.....	Maintain free-flowing lime in the feed hopper or silo at all times for continuous injection systems; maintain feeder setting at level established at performance test for continuous injection systems.
	Maintain molten aluminum level.	Operate side-well furnaces such that the level of molten metal is above the top of the passage between sidewell and hearth during reactive flux injection, unless the hearth is also controlled.
	Fluxing in sidewell furnace hearth.	Add reactive flux only to the sidewell of the furnace unless the hearth is also controlled.
	Reactive flux injection rate.	Maintain reactive flux injection rate (lb/hr) at or below rate used during the performance test for each operating cycle or time period used in the performance test.
	Site-specific monitoring plan ^c	Operate furnace within the range of charge materials, contaminant levels, and parameter values established in the site-specific monitoring plan.
Group 1 furnace without add-on controls (including those that are part of a secondary aluminum processing unit).	Feed material (melting/holding furnace).	Use only clean charge.

Clean (group 2) furnace.....

Charge and flux materials.

Use only clean charge. Use no reactive flux.

^a Thermal chip dryers, scrap dryers/delacquering kilns/decoating kilns, dross-only furnaces, in-line fluxers and group 1 furnaces including melting/holding furnaces.

^b OM&M plan--Operation, maintenance, and monitoring plan.

^c Site-specific monitoring plan. Owner/operators of group 1 furnaces without control devices must include a section in their OM&M plan that documents work practice and pollution prevention measures, including procedures for scrap inspection, by which compliance is achieved with emission limits and process or feed parameter-based operating requirements. This plan and the testing to demonstrate adequacy of the monitoring plan must be developed in coordination with and approved by the permitting authority.

VII. Appendix 3 – Table 3 to Subpart RRR: Summary of Monitoring Requirements for New and Existing Affected Sources and Emission Units

Affected source/Emission unit	Monitor type/Operation/ Process	Monitoring requirements
All affected sources and emission units with an add-on air pollution control device.	Emission capture and collection system.	Annual inspection of all emission capture, collection, and transport systems to ensure that systems continue to operate in accordance with ACGIH standards.
All affected sources and emission units subject to production-based (lb/ton of feed/charge) emission limits ^a .	Feed/charge weight.....	Record weight of each feed/charge, weight measurement device or other procedure accuracy of $\pm > 1\%$ ^b ; calibrate according to manufacturers specifications, or at least once every 6 months.
Group 1 furnace, group 2 furnace, in-line fluxer, and scrap dryer/ delacquering kiln/decoating kiln.	Labeling.....	Check monthly to confirm that labels are intact and legible.
Aluminum scrap shredder with fabric filter.	Bag leak detector or.....	Install and operate in accordance with "Fabric Filter Bag Leak Detection Guidance" ^c ; record voltage output from bag leak detector.
	COM or.....	Design and install in accordance with PS-1; collect data in accordance with subpart A of 40 CFR part 63; determine and record 6-minute block averages.
	VE.....	Conduct and record results of 30-minute daily test in accordance with Method 9.
Thermal chip dryer with afterburner....	Afterburner operating temperature.	Continuous measurement device to meet specifications in Sec. 63.1510(g)(1); record average temperature for each 15-minute block; determine and record 3-hr block averages.
	Afterburner operation.....	Annual inspection of afterburner internal parts; complete repairs in accordance with the OM&M plan.
	Feed/charge material.....	Record identity of each feed/charge; certify feed/charge materials every 6 months.
Scrap dryer/ delacquering kiln/ decoating kiln with afterburner and lime injected fabric filter.	Afterburner operating temperature.	Continuous measurement device to meet specifications in Sec. 63.1510(g)(1); record temperatures in 15-minute block averages; determine and record 3-hr block averages.
	Afterburner operation.....	Annual inspection of afterburner internal parts; complete repairs in accordance with the OM&M plan.
	Bag leak detector or.....	Install and operate in accordance with "Fabric Filter Bag Leak Detection Guidance" ^c ; record voltage output from

	COM.....	bag leak detector. Design and install in accordance with PS-1; collect data in accordance with subpart A of 40 CFR part 63; determine and record 6-minute block averages.
	Lime injection rate.....	For continuous injection systems, inspect each feed hopper or silo every 8 hrs to verify that lime is free-flowing; record results of each inspection. If blockage occurs, inspect every 4 hrs for 3 days; return to 8-hr inspections if corrective action results in no further blockage during 3-day period; record feeder setting daily.
	Fabric filter inlet temperature.	Continuous measurement device to meet specifications in Sec. 63.1510(h)(2); record temperatures in 15-minute block averages; determine and record 3-hr block averages.
Sweat furnace with afterburner.....	Afterburner operating temperature.	Continuous measurement device to meet specifications in Sec. 63.1510(g)(1); record temperatures in 15-minute block averages; determine and record 3-hr block averages.
	Afterburner operation.....	Annual inspection of afterburner internal parts; complete repairs in accordance with the OM&M plan.
Dross-only furnace with fabric filter...	Bag leak detector or.....	Install and operate in accordance with "Fabric Filter Bag Leak Detection Guidance" ^c ; record output voltage from bag leak detector.
	COM.....	Design and install in accordance with PS-1; collect data in accordance with subpart A of 40 CFR part 63; determine and record 6-minute block averages.
	Feed/charge material.....	Record identity of each feed/charge; certify charge materials every 6 months.
Rotary dross cooler with fabric filter..	Bag leak detector or.....	Install and operate in accordance with "Fabric Filter Bag Leak Detection Guidance" ^c ; record output voltage from bag leak detector.
	COM.....	Design and install in accordance with PS-1; collect data in accordance with subpart A of 40 CFR part 63; determine and record 6-minute block averages.
In-line fluxer with lime-injected fabric	Bag leak detector or..... filter.	Install and operate in accordance with "Fabric Filter Bag Leak Detection Guidance" ^c ; record output voltage from bag leak detector.
	COM.....	Design and install in accordance with PS-1; collect data in accordance with

	Reactive flux injection rate.	subpart A of 40 CFR part 63; determine and record 6-minute block averages Weight measurement device accuracy of $\pm 1\%^b$; calibrate according to manufacturer's specifications or at least once every 6 months; record time, weight and type of reactive flux added or injected for each 15-minute block period while reactive fluxing occurs; calculate and record total reactive flux injection rate for each operating cycle or time period used in performance test; or Alternative flux injection rate determination procedure per Sec. 63.1510(j)(5).
	Lime injection rate.....	For continuous injection systems, record feeder setting daily and inspect each feed hopper or silo every 8 hrs to verify that lime is free-flowing; record results of each inspection. If blockage occurs, inspect every 4 hrs for 3 days; return to 8-hour inspections if corrective action results in no further blockage during 3-day period. ^d
In-line fluxer using no reactive flux...	Flux materials.....	Record flux materials; certify every 6 months for no reactive flux.
Group 1 furnace with lime-injected fabric filter.	Bag leak detector or.....	Install and operate in accordance with "Fabric Filter Bag Leak Detection Guidance" ^c ; record output voltage from bag leak detector.
	COM.....	Design and install in accordance with PS-1; collect data in accordance with subpart A of 40 part CFR 63; determine and record 6-minute block averages.
	Lime injection rate.....	For continuous injection systems, record feeder setting daily and inspect each feed hopper or silo every 8 hours to verify that lime is free-flowing; record results of each inspection. If blockage occurs, inspect every 4 hours for 3 days; return to 8-hour inspections if corrective action results in no further blockage during 3-day period. ^d
	Reactive flux injection rate	Weight measurement device accuracy of $+1\%^b$; calibrate every 3 months; record weight and type of reactive flux added or injected for each 15-minute block period while reactive fluxing occurs; calculate and record total reactive flux injection rate for each operating cycle or time period used in performance test; or Alternative flux injection rate determination procedure per Sec. 63.1510(j)(5).

Group 1 furnace without add-on controls.	Fabric filter inlet temperature.	Continuous measurement device to meet specifications in Sec. 63.1510(h)(2); record temperatures in 15-minute block averages; determine and record 3-hour block averages.
	Maintain molten aluminum level in sidewell furnace.	Maintain aluminum level operating log; certify every 6 months.
	Fluxing in sidewell furnace hearth. Reactive flux injection rate.	Maintain flux addition operating log; certify every 6 months. Weight measurement device accuracy of +1% ^b ; calibrate according to manufacturers specifications or at least once every six months; record weight and type of reactive flux added or injected for each 15-minute block period while reactive fluxing occurs; calculate and record total reactive flux injection rate for each operating cycle or time period used in performance test.
	OM&M plan (approved by permitting agency).	Demonstration of site-specific monitoring procedures to provide data and show correlation of emissions across the range of charge and flux materials and furnace operating parameters.
	Feed material (melting/holding furnace).	Record type of permissible feed/charge material; certify charge materials every 6 months.
Clean (group 2) furnace.....	Charge and flux materials..	Record charge and flux materials; certify every 6 months for clean charge and no reactive flux.

^a Thermal chip dryers, scrap dryers/delacquering kilns/decoating kilns, dross-only furnaces, in-line fluxers and group 1 furnaces or melting/holding furnaces.

^b Permitting agency may approve measurement devices of alternative accuracy, for example in cases where flux rates are very low and costs of meters of specified accuracy are prohibitive; or where feed/charge weighing devices of specified accuracy are not practicable due to equipment layout or charging practices.

^c Non-triboelectric bag leak detectors must be installed and operated in accordance with manufacturers' specifications.

^d Permitting agency may approve other alternatives including load cells for lime hopper weight, sensors for carrier gas pressure, or HCl monitoring devices at fabric filter outlet.

VIII. Appendix 4 – General Provisions Applicability to Subpart RRR

Citation	Requirement	Applies to RRR	Comment
Sec. 63.1(a)(1)-(4).....	General Applicability.	Yes.	.....
Sec. 63.1(a)(5).....	.....	No.....	[Reserved].
Sec. 63.1(a)(6)-(8).....	.....	Yes.	.....
Sec. 63.1(a)(9).....	.....	No.....	[Reserved].
Sec. 63.1(a)(10)-(14).....	.....	Yes.	.....
Sec. 63.1(b).....	Initial Applicability Determination.	Yes.....	EPA retains approval authority.
Sec. 63.1(c)(1).....	Applicability After Standard Established.	Yes.	.....
Sec. 63.1(c)(2).....	.....	Yes.....	States have option to exclude area sources from title V permit program.
Sec. 63.1(c)(3).....	.....	No.....	[Reserved].
Sec. 63.1(c)(4)-(5).....	.....	Yes.	.....
Sec. 63.1(d).....	.....	No.....	[Reserved].
Sec. 63.1(e).....	Applicability of Permit Program.	Yes.	.....
Sec. 63.2.....	Definitions.....	Yes.....	Additional definitions in Sec. 63.1503.
Sec. 63.3.....	Units and Abbreviations.	Yes.....	.....
Sec. 63.4(a)(1)-(3).....	Prohibited Activities.	Yes.	.....
Sec. 63.4(a)(4).....	.....	No.....	[Reserved]
Sec. 63.4(a)(5).....	.....	Yes.	.....
Sec. 63.4(b)-(c).....	Circumvention/ Severability.	Yes.	.....
Sec. 63.5(a).....	Construction and Reconstruction— Applicability	Yes.	.....
Sec. 63.5(b)(1).....	Existing, New, Reconstructed Sources--Requirements.	Yes.	.....
Sec. 63.5(b)(2).....	.....	No.....	[Reserved].
Sec. 63.5(b)(3)-(6).....	.....	Yes.	.....
Sec. 63.5(c).....	.....	No.....	[Reserved].
Sec. 63.5(d).....	Application for Approval of Construction/ Reconstruction.	Yes.	.....
Sec. 63.5(e).....	Approval of Construction/ Reconstruction.	Yes.	.....
Sec. 63.5(f).....	Approval of Construction/ Reconstruction Based on State Review.	Yes.	.....

Sec. 63.6(a).....	Compliance with Standards and Maintenance—Applicability.	Yes.	.....
Sec. 63.6(b)(1)-(5).....	New and Reconstructed Sources--Dates.	Yes.	.....
Sec. 63.6(b)(6).....	.....	No.....	[Reserved].
Sec. 63.6(b)(7).....	.....	Yes.	.....
Sec. 63.6(c)(1).....	Existing Sources Dates	Yes.....	Sec. 63.1501 specifies dates.
Sec. 63.6(c)(2).....	.....	Yes.	.....
Sec. 63.6(c)(3)-(4).....	.....	No.....	[Reserved].
Sec. 63.6(c)(5).....	.....	Yes.	.....
Sec. 63.6(d).....	.....	No.....	[Reserved].
Sec. 63.6(e)(1)-(2).....	Operation & Maintenance Requirements.	Yes.....	Sec. 63.1510 requires plan.
Sec. 63.6(e)(3).....	Startup, Shutdown, and Malfunction Plan.	Yes.	.....
Sec. 63.6(f).....	Compliance with Emission Standards.	Yes.	.....
Sec. 63.6(g).....	Alternative Standard..	No.....	.....
Sec. 63.6(h).....	Compliance with Opacity/VE Standards.	Yes.	.....
Sec. 63.6(i)(1)-(14).....	Extension of Compliance.	Yes.	.....
Sec. 63.6(i)(15).....	.....	No.....	[Reserved].
Sec. 63.6(i)(16).....	.....	Yes.	.....
Sec. 63.6(j).....	Exemption from Compliance.	Yes.	.....
Sec. 63.7(a)-(h).....	Performance Test Requirements--Applicability and Dates.	Yes.....	Except § 63.1511 establishes dates for initial performance tests.
Sec. 63.7(b).....	Notification.....	Yes.	.....
Sec. 63.7(c).....	Quality Assurance/Test Plan.	Yes.	.....
Sec. 63.7(d).....	Testing Facilities....	Yes.	.....
Sec. 63.7(e).....	Conduct of Tests.....	Yes.	.....
Sec. 63.7(f).....	Alternative Test Method.	Yes.	.....
Sec. 63.7(g).....	Data Analysis.....	Yes.	.....
Sec. 63.7(h).....	Waiver of Tests.....	Yes.	.....
Sec. 63.8(a)(1).....	Monitoring Requirements--Applicability	Yes.	.....
Sec. 63.8(a)(2).....	.....	Yes.	.....
Sec. 63.8(a)(3).....	.....	No.....	[Reserved]
Sec. 63.8(a)(4).....	.....	Yes.....	.....
Sec. 63.8(b).....	Conduct of Monitoring.	Yes.	.....
Sec. 63.8(c)(1)-(3).....	CMS Operation and Maintenance.	Yes.	.....
Sec. 63.8(c)(4)-(8).....	.....	Yes.	.....
Sec. 63.8(d).....	Quality Control.....	Yes.	.....
Sec. 63.8(e).....	CMS Performance Evaluation.	Yes.	.....

Sec. 63.8(f)(1)-(5).....	Alternative Monitoring Method.	No.....	Sec. 63.1510(w) includes provisions for monitoring alternatives.
Sec. 63.8(f)(6).....	Alternative to RATA Test.	Yes.	.....
Sec. 63.8(g)(1).....	Data Reduction.....	Yes.	.....
Sec. 63.8(g)(2).....	.....	No.....	Sec. 63.1512 requires five 6-minute averages for an aluminum scrap shredder.
Sec. 63.8(g)(3)-(5).....	.....	Yes.	.....
Sec. 63.9(a).....	Notification Requirements—Applicability.	Yes.	.....
Sec. 63.9(b).....	Initial Notifications.	Yes.	.....
Sec. 63.9(c).....	Request for Compliance Extension.	Yes.	.....
Sec. 63.9(d).....	New Source Notification for Special Compliance Requirements.	Yes.	.....
63.9(e).....	Notification of Performance Test.	Yes.	.....
Sec. 63.9(f).....	Notification of VE/Opacity Test.	Yes.	.....
Sec. 63.9(g).....	Additional CMS Notifications.	Yes.	.....
Sec. 63.9(h)(1)-(3).....	Notification of Compliance Status.	Yes.....	Except § 63.1515 establishes dates for notification of compliance status reports.
Sec. 63.9(h)(4).....	.....	No.....	[Reserved].
Sec. 63.9(h)(5)-(6).....	.....	Yes.	.....
Sec. 63.9(i).....	Adjustment of Deadlines.	Yes.	.....
Sec. 63.9(j).....	Change in Previous Information.	Yes.	.....
Sec. 63.10(a).....	Recordkeeping/Reporting—Applicability.	Yes.	.....
Sec. 63.10(b).....	General Requirements..	Yes.....	Sec. 63.1517 includes additional requirements.
Sec. 63.10(c)(1).....	Additional CMS Recordkeeping.	Yes.	.....
Sec. 63.10(c)(2)-(4).....	.....	No.....	[Reserved].
Sec. 63.10(c)(5).....	.....	Yes.	.....
Sec. 63.10(c)(6).....	.....	Yes.	.....
Sec. 63.10(c)(7)-(8).....	.....	Yes.	.....
Sec. 63.10(c)(9).....	.....	No.....	[Reserved].
Sec. 63.10(c) (10)-(13).....	.....	Yes.	.....
Sec. 63.10(c) (14).....	.....	Yes.	.....
Sec. 63.10(d)(1).....	General Reporting Requirements.	Yes.	.....
Sec. 63.10(d)(2).....	Performance Test Results.	Yes.	.....
Sec. 63.10(d)(3).....	Opacity or VE	Yes.	.....

Sec. 63.10(d)(4) -(5).....	Observations. Progress Reports/ Startup, Shutdown, and Malfunction Reports.	Yes.	.....
Sec. 63.10(e)(1)-(2).....	Additional CMS Reports	Yes.	.....
Sec. 63.10(e)(3).....	Excess Emissions/CMS Performance Reports.	Yes.	.....
Sec. 63.10(e)(4).....	COMS Data Reports.....	Yes.	.....
Sec. 63.10(f).....	Recordkeeping/ Reporting Waiver.	Yes.	.....
Sec. 63.11(a)-(b).....	Control Device Requirements.	No.....	Flares not applicable.
Sec. 63.12(a)-(c).....	State Authority and Delegations.	Yes.	EPA retains authority for applicability determinations.
Sec. 63.13.....	Addresses.....	Yes.	.....
Sec. 63.14.....	Incorporation by Reference.	Yes.	Chapters 3 and 5 of ACGIH Industrial Ventilation Manual for capture/collection systems; and Interim Procedures for Estimating Risk Associated with Exposure to Mixtures of Chlorinated Dibenzofurans (CDDs and CDFs) and 1989 and 1989 Update (incorporated by reference in Sec 63.1502).
Sec. 63.15.....	Availability of Information/ Confidentiality.	Yes.	.....

IX. Appendix 5: IDNR Policy 3-b-08 Opacity Limits

1998 NOV 13 4

IOWA DEPARTMENT OF NATURAL RESOURCES
ENVIRONMENTAL PROTECTION DIVISION

POLICY/PROCEDURE STATEMENT

TOPIC: <u>Opacity Limits</u>

Policy Procedure Number: 3-b-08

Replaces Number: None

Date:

Effective Date: November 12, 1998

Preparer: David Phelps

Reviewer:

Approval: **Bureau Chief:** Peter Hamlin

Date: 11/12/98

Division Administrator: Allan Stokes

Date: 11/12/98

Applicable Code of Iowa or Iowa Administrative Code Rule: 23.3(2)d

“No person shall allow, cause or permit the emission of visible air contaminants into the atmosphere from any equipment, internal combustion engine, premise fire, open fire or stack, equal to or in excess of 40 percent opacity or that level specified in a construction permit, except as provided below and in 567-Chapter 24.”

REASON OR BACKGROUND

The default opacity limit allowed by regulation is 40%. This limit was established with the original regulations in 1970. It is generally accepted that opacity greater than 40% was evidence of a mass emission standard exceedence. More recently, there have been requests from facilities for limits much lower than that allowed by the regulations, in some cases less than 0.01 gr/scf to which a 40% opacity limit does not correspond. Since opacity is used as an indicator of the particulate emission rate, listing an indicated potential problem opacity that is more in line with the mass emission rate is useful. In order to have the authority to set limits lower than 40%, subrule 23.3(2)d was changed. This change allows the department the ability to set opacity limits at a level that more closely corresponds to what would be observed by the source when operating in compliance with its mass emission rate.

Except in the case where a specific opacity limit is established by rule, it has been the general policy of the Department not to take action on opacity limits directly. Rather, if it is felt that a violation of the mass emission rate exists that is not attributable to some abnormal event, a stack test would be required to verify compliance. However, the Department reserves the right to use the results of formal opacity readings as evidence of an exceedence.

DETAILS

It shall be the policy of the Department to list the default opacity as a permit condition and in addition an indicator opacity may be listed.

For ease of proving continual compliance a source may request a 'no visible emissions' opacity limit which allows proof of compliance without having a certified opacity reading taken. In this case any visible emissions would be an exceedence.

The IDNR permit writer may list an opacity that will be a indicator of possible mass emission rate exceedence. If the permittee wishes, the recommended indicator opacity may be changed by demonstrating compliance with the mass emission rate during a stack test while emitting the new desired indicator opacity. If the tested mass emission rate is less than the permitted emission rate, then the desired indicator opacity may be set at a proportionally higher level than observed during the stack test.

If an opacity measurement, taken in accordance with an approved reference method for opacity, (generally USEPA Method 9 or 22) exceeds the indicator opacity then the facility will promptly investigate the source and make corrections. However, if after corrections are made the opacity continues to exceed the indicator opacity the Department may require additional proof to demonstrate compliance with the mass emissions limits.

Recommended indicator opacities shall be:

Grain Loading gr./scf	Recommended Indicator Opacity
<0.01 gr./scf	non specified in permit *
0.01 to 0.06 gr./scf	10% Opacity
0.061 to 0.08 gr./scf	20% Opacity
0.081 to 0.1 gr./scf	25% Opacity

* A line is added to the permit that states: "If visible emissions are observed other than start-up, shut-down, or malfunction, a stack test may be required to demonstrate compliance with the particulate standard."

If a source is a batch process the indicator opacity shall be based on the table above, but the opacity averaging period, for comparison to the indicator opacity, shall be the entire batch cycle. For purposes of comparison the indicator opacity readings shall be taken during the entire cycle and averaged.

Sources are also given the opportunity to set source specific limits to be coordinated with the initial compliance test. These may then be incorporated into the permit.

In all cases an exceedence of the indicator opacity will require the permittee to file an "indicator opacity exceedence report" to the IDNR regional office. The reporting requirements shall be:

Oral report of excess indicator opacity. An incident of excess indicator opacity (other than an incident of excess indicator opacity during a period of startup, shutdown, or cleaning) shall be reported to the appropriate regional office of the department within eight hours of, or at the start of the first working day following the onset of the of the incident. The reporting exemption for an incident of excess indicator opacity during startup and shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in subrule 25.1(6).

An oral report of excess indicator opacity is not required for a source with operational continuous monitoring equipment (as specified in subrule 25.1(1) if the incident of excess indicator opacity continues for less than 30 minutes and does not exceed the applicable visible emission standard by more than 10 percent opacity.

The oral report may be made in person or by telephone and shall include as a minimum the following:

- a) The identity of the equipment or source operation from which the excess indicator opacity originated and the associated stack or emission point.
- b) The estimated quantity of the excess indicator opacity.
- c) The time and expected duration of the excess indicator opacity.
- d) The cause of the excess indicator opacity.
- e) The steps being taken to remedy the excess indicator opacity.
- f) The steps being taken to limit the excess indicator opacity in the interim period.

Written report of excess indicator opacity. A written report of an incident of excess indicator opacity shall be submitted as a follow-up to all required oral reports to the department within seven (7) days of the onset of the upset condition, and shall include as a minimum the following:

- a) The identity of the equipment or source operation point from which the excess emission originate and the associated stack or emission point.
- b) The estimated quantity of the excess indicator opacity.
- c) The time and duration of the excess indicator opacity.
- d) The cause of the excess indicator opacity.
- e) The steps that were taken to remedy and to prevent the recurrence of the incident of excess indicator opacity.
- f) The steps that were taken to limit the excess indicator opacity.
- g) If the owner claims that the excess indicator opacity was due to malfunction, documentation to support this claim.

Exceptions to this policy:

- 1) In the case where a facility has an opacity limit established in an existing permit, no change will be made to that permit limit unless the permit is being modified for other purposes.
- 2) If the facility has a continuous opacity monitor, this policy shall not apply.
- 3) This policy shall not apply to opacity limits established in Prevention of Significant Deterioration (PSD) permits or permits that were established for maintenance plans for nonattainment areas.
- 4) This policy shall not apply where an opacity limit is established as an indication of hazardous air pollutants.

- 5) This policy shall not apply where an opacity limit is established by a rule, New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAPS), etc.

X. Appendix 6: IDNR Administrative Consent Order No. 03-AQ-51

IDNR Administrative Consent Order No. 03-AQ-51 has not been approved into Iowa's State Implementation Plan (SIP). Pending incorporation of IDNR Administrative Consent Order No. 03-AQ-51 into Iowa's SIP, it is state enforceable only.

IOWA DEPARTMENT OF NATURAL RESOURCES
ADMINISTRATIVE CONSENT ORDER

ISSUED TO: Blackhawk Foundry & Machine Company 82-01-004

Des Moines, Iowa

IN THE MATTER OF:

BLACKHAWK FOUNDRY
& MACHINE COMPANY

ADMINISTRATIVE CONSENT ORDER

NO. 03-AQ-51

TO: Blackhawk Foundry and Machine Company
c/o James R. Grafton
President, COO
323 S. Clark Street
Davenport, Iowa 52802

Blackhawk Foundry and Machine Company
c/o James R. Grafton, Registered Agent
323 S. Clark Street
Davenport, Iowa 52802

I. SUMMARY

This Administrative Consent Order is entered into between the Iowa Department of Natural Resources (DNR) and Blackhawk Foundry and Machine Company (Blackhawk). This Administrative Consent Order constitutes the control strategy for resolving PM-10 National Ambient Air Quality violations monitored in Davenport, Iowa.

Any questions regarding this order should be directed to:

For Iowa DNR:

James McGraw
Iowa Department of Natural Resources

7900 Hickman Road, Suite 1
Des Moines, Iowa 50322
Ph: 515/242-5167
Fax: 515/242-5094

For Blackhawk:

James R. Grafton
Blackhawk Foundry and Machine
Company
323 S. Clark Street
Davenport, Iowa 52802
Ph: 563/323-3621
Fax: 563/322-5521

Either party may change its designated representative at any time by providing written notice to the other party.

This Administrative Consent Order supersedes Administrative Consent Order No. 01-AQ-26.

RECEIVED

DEC 23 2003

**IOWA DEPARTMENT OF NATURAL RESOURCES
ADMINISTRATIVE CONSENT ORDER
ISSUED TO: Blackhawk Foundry & Machine Company**

Procedural questions regarding this order should be directed to:

Anne Preziosi
Iowa Department of Natural Resources
Air Quality Bureau
7900 Hickman Road, Suite 1
Urbandale, Iowa 50322
515-281-6243

II. STATEMENT OF FACTS

1. DNR has monitored three exceedences of the 24-hour PM-10 National Ambient Air Quality Standard in the vicinity of Blackhawk Foundry in Davenport. On October 30, 1996, a DNR monitoring site located at 405 S. Faragut (World of Oz Day Care) in Davenport, Iowa, recorded a PM-10 concentration of 161 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), and on May 8, 1997, the same monitor recorded a value of 160 $\mu\text{g}/\text{m}^3$. At the time of the first exceedance, the monitor was operating at a sampling frequency of one sample every three days. The State initiated everyday sampling as required by 40 CFR 58.13, but sampling was discontinued at the request of the property owners before the required four quarters of sampling could be conducted. Therefore, the number of expected exceedences was calculated to be greater than 1.1 for the three calendar year period from 1995 through 1997. In order to continue ambient air surveillance in the vicinity of the previous monitoring site, a new continuous monitor was placed on the Blackhawk property, inside of the Blackhawk fence line. This monitor recorded a value of 180 micrograms on March 27, 2000.

2. The Blackhawk facility is located at or near the PM-10 monitor sites. Air dispersion modeling by Iowa DNR has indicated that Blackhawk is the primary contributor to the PM-10 levels monitored.

3. The Iowa DNR and Blackhawk have coordinated an effort to reduce ambient PM-10 emissions in the area, thus allowing the area to remain attainment for PM-10. To that end, Iowa DNR and Blackhawk have agreed to enter into this Administrative Consent Order.

III. CONCLUSIONS OF LAW

1. This order is issued pursuant to the provisions of Iowa Code sections 455B.134(9) and 455B.138(1), which authorize the Director to issue any administrative orders necessary to secure compliance with or prevent a violation of Iowa Code chapter 455B, Division II, and the rules promulgated and permits issued pursuant thereto, and to prevent, abate, and control air pollution.

**IOWA DEPARTMENT OF NATURAL RESOURCES
ADMINISTRATIVE CONSENT ORDER
ISSUED TO: Blackhawk Foundry & Machine Company**

2. The PM-10 emission sources located at Blackhawk include "air contaminant sources" as defined by Iowa Code section 455B.131(2), and "stationary sources" and "fugitive dust" sources as defined by 567 Iowa Administrative Code (I.A.C.) 20.2.

3. According to 567 I.A.C. 28.1, the ambient air quality standards for the State of Iowa shall be the National Primary and Secondary Ambient Air Quality Standards (NAAQS) located at 40 C.F.R. Part 50, as amended through July 18, 1997.

4. The primary and secondary 24-hour ambient air quality standards for PM-10 are 150 ug/m³, 24-hour average concentration. The standards are attained when the expected number of days per calendar year with a 24-hour average concentration above 150 ug/m³, as determined in accordance with 40 C.F.R. Part 50, Appendix K, is equal to or less than one. The concentrations monitored in this case and the resulting estimated number of exceedences constitute a violation of this standard.

5. An exceedence of the NAAQS for PM-10 constitutes "air pollution" as defined by Iowa Code section 455B.131(3).

6. According to the provisions of 567 I.A.C. 22.1(1) and 567 I.A.C. 22.1(3), the owner or operator of a stationary source shall obtain a permit to install or alter equipment or control equipment unless otherwise exempt. Any modifications occurring as a result of this consent order and subject to the provisions of 567 I.A.C. chapter 22 shall require a construction permit or shall meet the requirements of a construction permit exemption contained in the provisions of 567 I.A.C. 22.1(2).

7. The provisions of 567 I.A.C. 23.3(2)"c"(1), provide, in relevant part, that all persons, with certain exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. "Reasonable precautions" are defined in this rule.

IV. ORDER

THEREFORE, DNR orders and BLACKHAWK AGREES to the following:

1. The coke belts and transfer points, after the initial unloading point, shall be enclosed at all times during operation of this system to eliminate fugitive PM-10 emissions from these sources.

2. The exterior doors to the sand department are to be closed during sand and bond unloading operations. Sand department staff shall monitor the sand and bond

**IOWA DEPARTMENT OF NATURAL RESOURCES
ADMINISTRATIVE CONSENT ORDER
ISSUED TO: Blackhawk Foundry & Machine Company**

transport vehicle operators to ensure that the sand and bond storage silos are not over-pressurized during filling operations.

3. Maintenance shall be performed on the cupola cap as necessary to ensure that it seals properly at all times. Operating and maintenance personnel shall take immediate action to correct cupola cap sealing problems during cupola operation to prevent continued discharge of fugitive emissions. Blackhawk shall maintain records specifying the date, time, and actions taken to correct cupola cap sealing problems. The records shall be retained for a period of two years following the date of the entries and shall be made available to the DNR upon request. This record keeping shall be an ongoing requirement and shall not terminate.

4. A continuous six (6) foot high chain link fence with controlled access gates shall be maintained and located as depicted in Exhibit "A", dated December 2000, which is attached to this Administrative Consent Order and by this reference made a part hereof. The fencing shall be inspected and repaired as necessary.

5. The emission units listed in Exhibit "B" shall be limited to the daily and 12-month rolling average process limits listed in Exhibit "B", which is attached to this Administrative Consent Order and by this reference made a part hereof. The daily quantities of material monitored at each of the units identified in Exhibit "B" shall be entered into a daily log to demonstrate compliance with the daily and 12-month rolling average limits. Daily logs shall be maintained for a period of two years following the date of such entries and shall be made available to the DNR upon request.

6. Blackhawk shall submit to the DNR written notification that construction has commenced on the proposed project permitted in Air Quality Construction Permit No. 84-A-055S1. Blackhawk shall also provide written notifications to DNR of completion of construction of the proposed project and completion the initial performance testing requirements, as specified in Air Quality Construction Permit No. 84-A-055S1. Each of these notifications shall be due no later than 30 days following the date of each activity.

V. NO ADMISSION

While Blackhawk agrees to comply with the orders contained herein, it makes no admission as to the Findings of Facts and Conclusions of Law.

VI. WAIVER OF APPEAL RIGHTS

This order is entered into knowingly and with the consent of Blackhawk. For that reason, Blackhawk waives its right to appeal this order or any part thereof.

IOWA DEPARTMENT OF NATURAL RESOURCES
ADMINISTRATIVE CONSENT ORDER
ISSUED TO: Blackhawk Foundry & Machine Company

VII. NONCOMPLIANCE

Failure to comply with this order may result in the imposition of administrative penalties or referral to the Attorney General's office to obtain injunctive relief and civil penalties pursuant to the provisions of Iowa Code section 455B.146.



JEFFREY R. VONK, DIRECTOR
IOWA DEPARTMENT OF NATURAL RESOURCES

Dated this 4 day of
December 2003.



for BLACKHAWK FOUNDRY & MACHINE COMPANY

Dated this 19TH day of
November, 2003.

RECEIVED

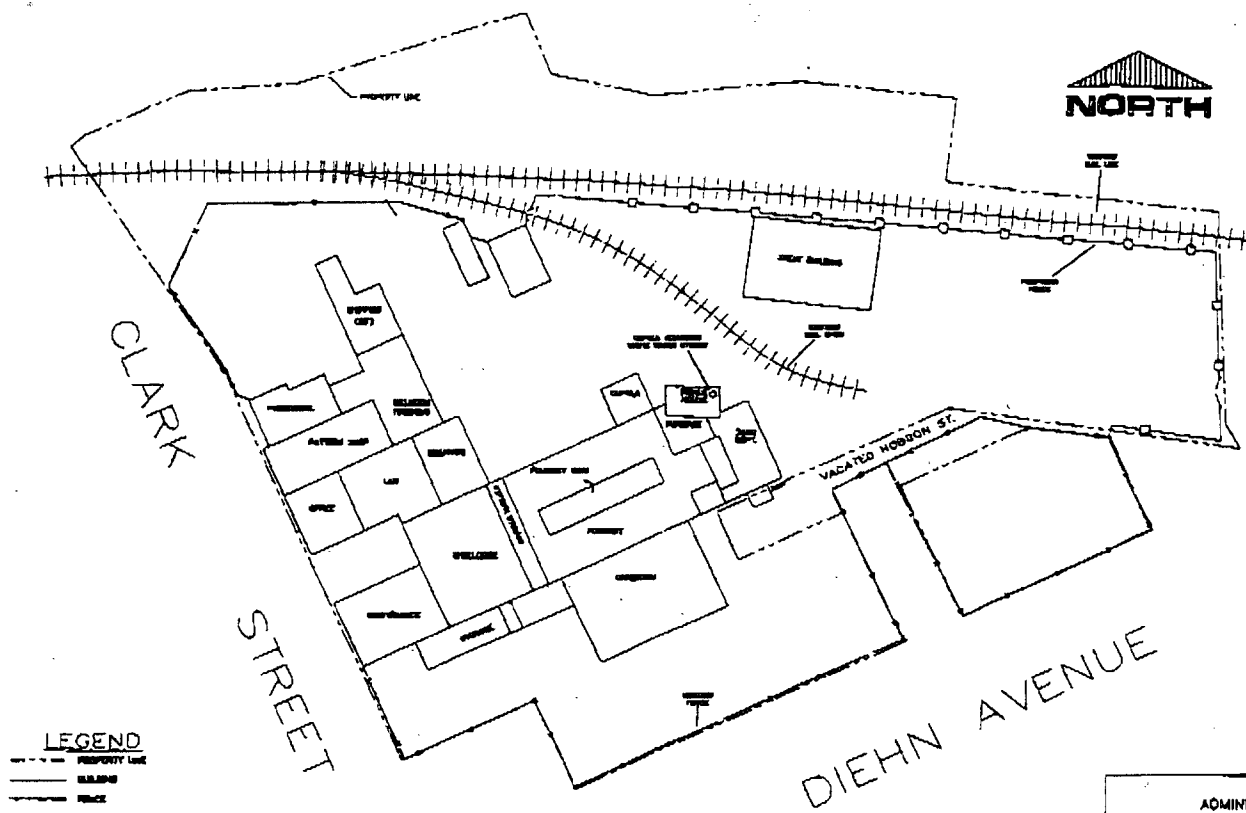
NOV 19 2003

**IOWA DEPARTMENT OF NATURAL RESOURCES
ADMINISTRATIVE CONSENT ORDER
ISSUED TO: Blackhawk Foundry & Machine Company**

Exhibit "A"

Site Diagram

Blackhawk Foundry

BLACKHAWK FOUNDRY
SITE PLAN

LEGEND

- PROPERTY LINE
- BUILDING
- FENCE
- RAILROAD
- RAILROAD RIGHT-OF-WAY

Exhibit "A"

SITE DIAGRAM
ADMINISTRATIVE CONSENT ORDER
BLACKHAWK FOUNDRY
SOUTH CLARK STREET
DAVENPORT, IOWA

Project No.	JFD	Project No.	4447701
Submitted By	JFD	Client	US EPA
Drawn By	ME	File No.	4447701-1
Checked By	JFD	Date	DEC 2000
Reviewed By	JFD	Figure No.	1

Terracon

4470 44th Avenue Court
South Malet, Waukegan, IL 60087

**IOWA DEPARTMENT OF NATURAL RESOURCES
ADMINISTRATIVE CONSENT ORDER
ISSUED TO: Blackhawk Foundry & Machine Company**

Exhibit "B"

Maximum Process Rates
Blackhawk Foundry & Machine Company

Emission Unit	Description	Material Monitored	Maximum Daily Limit (tons)	Maximum 12 month rolling average Limit (tons)
102	Cupola	Metal melted	432	81,000
103a and 103b	Cupola ladle and pour deck ladle	Ductile Iron melted	432*	40,500*
104	Mold Pouring	Metal poured	432	157,680
107	Mold sand silo	New sand	1,440	52,560
108	Bond storage	Bond	1,440	52,560
112	Return Sand 1	Return sand	3,120	648,960**
122	Wheelabrator 1	Metal castings	288	36,000
128	Return Sand 2	Return Sand	3,120	648,960**
134	Wheelabrator 2	Metal Castings	144	18,000

*EU 103a and 103b combined.

**Twelve month rolling average tons based on 4,992 hours per 12 month rolling period.

XI. Appendix 7: Operation Maintenance and Monitoring (OM&M) Plan

OPERATION, MAINTENANCE, AND MONITORING PLAN
&
STARTUP, SHUTDOWN AND MALFUNCTION PLAN
BLACKHAWK FOUNDRY & MACHINE COMPANY
DAVENPORT, IOWA
Terracon Project No. 07027069

March 27, 2003
Revised April 8, 2003

Prepared for:

Blackhawk Foundry & Machine Company, Inc.
Davenport, Iowa

Prepared by:

TERRACON
Bettendorf, Iowa

RECEIVED
APR 10 2003

Terracon

TABLE OF CONTENTS

1.0 PROCESS AND CONTROL DEVICE PARAMETERS.....	1
1.1 Sweat Furnace Operating Parameters	2
1.2 Cartridge Filter Control Parameters.....	2
2.0 MONITORING SCHEDULE	2
3.0 OPERATING & MAINTENANCE PROCEDURES – PROCESS & CONTROL EQUIPMENT..	3
3.1 System Startup	3
3.2 System Operation	3
3.3 System Shutdown.....	4
3.4 Sweat Furnace Maintenance	4
3.5 Cartridge Filter Maintenance	4
3.6 System Malfunctions.....	4
4.0 OPERATING & MAINTENANCE PROCEDURES – MONITORING EQUIPMENT	5
5.0 PROCESS AND CONTROL DEVICE MONITORING PROCEDURES.....	5
6.0 CORRECTIVE ACTIONS	6
7.0 SYSTEM MAINTENANCE	7
8.0 WORK PRACTICE AND POLLUTION PREVENTION.....	7

APPENDICES

Appendix A - Manufacturer's Information – Bulletin 723

Appendix B - Manufacturer's Operation and Installation Instructions – Bulletin 724

OPERATION, MAINTENANCE AND MONITORING PLAN
ALUMINUM SWEAT FURNACE (EU 131)
BLACKHAWK FOUNDRY & MACHINE COMPANY
DAVENPORT, IOWA
Terracon Project No. 07027069

Blackhawk Foundry and Machine Company, Inc. (Blackhawk) operates an aluminum sweat furnace (EU 131) at its Davenport, Iowa facility. Exhaust from the sweat furnace is discharged to a primary cartridge filter for control of particulate matter and then to a secondary HEPA filter before being returned to the facility as make-up air.

Operation of the aluminum sweat furnace is subject to Maximum Achievable Control Technology (MACT) standards for Secondary Aluminum Production. Applicable MACT standards have been promulgated under Title 40 Code of Federal Regulations Chapter 63 (40 CFR 63) Subpart RRR, "*National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production*".

Blackhawk has conducted stack testing of sweat furnace emissions to demonstrate compliance with the requirements of 40 CFR 63.1505 (f) (2) related to dioxin/furan (D/F) emissions. Stack testing, completed on October 22 and 23, 2002, was conducted on a temporary stack installed after the primary cartridge filter. Accordingly, the primary cartridge filter is considered a part of the system subject to the requirements of the MACT standard. The cartridge filter is not expected to significantly reduce D/F emissions generated during aluminum sweating operations.

This Operation, Maintenance, and Monitoring (OM&M) Plan identifies equipment and procedures related to the MACT standard including the aluminum sweat furnace and the primary cartridge filter. The secondary HEPA filter and an induction furnace for the melting of stainless steel are not considered a part of the sweat furnace system subject to the MACT standard. This OM&M Plan has been prepared in accordance with the requirements of 40 CFR 63.1510 (b).

This OM&M Plan also incorporates requirements for the Startup, Shutdown, and Malfunction (SS&M) Plan under 40 CFR 63.6 (e) (3).

1.0 PROCESS AND CONTROL DEVICE PARAMETERS

To demonstrate compliance with the MACT standard, Blackhawk monitors the sweat furnace and primary cartridge furnace operation and performance.

1.1 Sweat Furnace Operating Parameters

Monitoring of the sweat furnace operation consists of recording daily quantities of aluminum melted and the hours of sweat furnace operation. Recorded parameters are used to determine an hourly process rate for comparison to the permitted process rate of 0.15 tons per hour. The sweat furnace unit is used for other purposes not associated with the aluminum sweating process. The unit is subject to the MACT standard only during aluminum sweating operations. Hours of operation for other processes are not recorded.

1.2 Cartridge Filter Control Parameters

The primary cartridge filter is equipped with a manometer and a bag leak detector to monitor performance of the system. The manometer is used to measure the pressure drop across the filter element. The unit typically operates in the range of 3 to 4.6 inches of water. Manometer readings below this range may be indicative of a leak in the system. Readings above the range are indicative of particulate buildup on the filters. The manometer consists of a gauge on the filter control panel. Readings are not recorded continuously.

The bag leak detector consists of a Monitor DustAlarm® and is installed in the duct between the primary and secondary filter. The detector uses the triboelectric measurement system to directly measure the concentration of the dust in the duct. If the concentration exceeds 3 times the preset baseline level for a set period of time, an alarm signal is triggered indicating a possible leak in the system. The signal from the sensing unit is used to turn on an alarm light and sound an alarm and is also sent to a datalogger to continuously record operating conditions. As noted in Bulletin 723, attached as Appendix A, the bag leak detector has a sensitivity of 0.00044 grains per dry standard cubic foot.

2.0 MONITORING SCHEDULE

Blackhawk will conduct periodic monitoring of the aluminum sweat furnace system and operating parameters. A summary of monitoring events is presented in Inset 1.

Inset 1 – Monitoring Schedule

Item	Activity	Schedule
Capture and Collection System	Inspect system for normal operation	Semi-annually
Sweat Furnace	Inspect furnace for normal operation	Monthly
Bag Leak Detector	Download and review datalogger	Monthly
Bag Leak Detector	Conduct system tests	Monthly
Bag Leak Detector	Clean and inspect probe	Semi-annually
Bag Leak Detector	Calibrate detector	Semi-annually
Baghouse Manometer	Observe and record pressure drop	Daily
Process Rate	Record aluminum melt quantity and hours of operation	Daily

3.0 OPERATING & MAINTENANCE PROCEDURES – PROCESS & CONTROL EQUIPMENT

Blackhawk will follow the procedures in this section for operation and maintenance of the aluminum sweat furnace and cartridge filter.

3.1 System Startup

The following procedures are conducted prior to operation of the sweat furnace.

1. Turn on exhaust blower;
2. Observe manometer for proper operating range;
3. Check leak detector status (normal or alarm condition);
4. Open sweat furnace doors;
5. Turn on gas supply; and
6. Initiate furnace automatic start-up procedures including auto-purge cycle, low-temperature fire, internal control test, and high-temperature fire.

3.2 System Operation

The sweat furnace operates at a temperature of 1,350 degrees Fahrenheit (°F). Operating temperature is maintained by internal thermocouples and is not monitored or adjusted on a daily basis. The following procedures are conducted during the operation of the sweat furnace.

1. Observe manometer for proper operating range;
2. Check leak detector status (normal or alarm condition);
3. Load charge basket onto charge rails;
4. After verifying normal leak detector status, activate charge load cylinders;
5. Continue to load charge baskets at approximate 20 minute intervals;

6. Remove baskets from exit rails; and
7. Tap furnace as needed to collect melted aluminum;

3.3 System Shutdown

The following procedures are conducted following operation of the sweat furnace.

1. Turn off gas supply;
2. After furnace temperature drops 200 °F, turn off oven blower (about 10 – 20 minutes);
3. Turn off exhaust blower; and
4. Verify that cartridge filter initiates automatic cleaning cycle.

3.4 Sweat Furnace Maintenance

The sweat furnace will be inspected on a monthly basis. The condition of furnace components including charge and exit doors and door operators, burners, blower motors, charge rails, and refractory will be observed for proper operation. Slag will be cleaned and removed as needed. Refractory oven lining will be repaired or replaced as needed.

3.5 Cartridge Filter Maintenance

The cartridge filter will be inspected and cleaned semi-annually. Cartridge elements will be removed, inspected for tears, cleaned in accordance with manufacturer's recommendations and replaced. Broken or damaged cartridge elements will be replaced. The cartridge filter structure will be inspected for evidence of leaks between the inlet and outlet chambers and for structural defects. Ductwork and blower system will be inspected for proper operation. Following cartridge filter cleaning and inspection, the following procedures will be followed prior to sweat furnace start-up:

1. Turn on exhaust blower;
2. Observe bag leak detector for alarm conditions;
3. If leaks are detected, inspect filter for leaks or broken seals using black light procedure;
4. Repair, reseal or replace cartridge elements as needed;
5. Return the sweat furnace to operation no sooner than 24 hours after last alarm condition.

3.6 System Malfunctions

A malfunction of the sweat furnace will require system shutdown for inspection and repairs, however, a sweat furnace malfunction would be considered non-critical. Shutdown of the system for repairs would not be expected to generate excessive emissions resulting in an

exceedance of permitted emission rates or MACT standards. Control equipment would continue to function and operate until the system was properly shutdown.

A malfunction of the collection and control system would be considered critical requiring immediate shutdown of the sweat furnace. A malfunction could occur as a broken bag or filter leak, which would be detected by the bag leak detector. System shutdown would be immediately initiated as described below. An exhaust blower failure could also occur which would require shutdown of the sweat furnace. A malfunction of the collection and control system may result in an increase in particulate emission rates, but would not be expected to result in an increase of D/F subject to MACT compliance.

4.0 OPERATING & MAINTENANCE PROCEDURES – MONITORING EQUIPMENT

Blackhawk will follow the following procedures related to the operation and maintenance of the bag leak detector.

Bag leak detector operation will be tested monthly using the following procedures:

1. With exhaust blower operating, inject approximately two ounces of dust into ductwork, upstream from sensor;
2. Verify alarm light and horn operation; and
3. Download datalogger and verify that alarm condition was recorded.

The bag leak detector will be inspected, cleaned, and calibrated semi-annually or when system checks indicate improper operation. Inspection, cleaning and calibration procedures will be conducted in accordance with manufacturer's recommendation. Monitor Bulletin 724, providing installation and operating instructions, is attached as Appendix B.

5.0 PROCESS AND CONTROL DEVICE MONITORING PROCEDURES

The bag leak detector is equipped with an alarm light and audible horn that are activated during an alarm condition. Sweat furnace operators are present at all times during system operation to monitor the system for alarm conditions. Alarm conditions during sweat furnace operation will result in immediate corrective action. Alarm conditions occurring during system startup or shutdown, while the sweat furnace is used for other processes, or when only the stainless steel induction furnace is operating are not subject to MACT requirements and will not require immediate corrective action. The detector datalogger will be downloaded on a monthly basis. Downloaded information will be reviewed and compared to the sweat furnace operating schedule for the previous month to verify that alarm conditions did not occur during periods of sweat furnace operation.

Aluminum production quantities and hours of operation will be recorded on a daily basis. Aluminum production quantities will be based on the number of full or partial 25-pound aluminum pigs produced. Daily quantity in pounds will be determined by multiplying the number of pigs produced by 25. Aluminum sweat furnace starting and ending times will be recorded daily. Recorded times will exclude furnace start-up and shutdown periods and furnace usage for other processes. The hourly production rate will be determined by dividing the aluminum quantity in tons by the hours of operation.

The cartridge filter manometer will be observed and recorded on a daily basis, while the system is operating. Pressure readings above or below the normal operating, will result in corrective action at the end of the operating shift.

6.0 CORRECTIVE ACTIONS

Blackhawk will initiate corrective action because of the following conditions:

1. Bag leak detector alarm;
2. Cartridge filter manometer reading above normal range;
3. Cartridge filter manometer reading below normal range; or
4. System malfunction.

The following procedures will be followed upon observation of a bag leak detector alarm or system malfunction:

1. Record time of alarm;
2. Shutdown sweat furnace;
3. Record time of furnace shutdown;
4. Following normal shutdown of induction furnace, if applicable inspect filter for leaks or broken seals using black light procedure;
5. Repair, reseal or replace cartridge elements as needed;
6. Return the sweat furnace to operation no sooner than 24 hours after last alarm condition.
7. Prepare summary report identifying pertinent times, inspection results, and corrective actions taken.

Cartridge filter manometer readings above normal range are most likely indicative of excessive particulate accumulation on cartridge elements. Daily pulse cleaning of filter will reduce particulate accumulation. If condition persists, cleaning of cartridge filter may be required in accordance with above procedures. Manometer readings below normal operation may indicate filter leaks and should trigger bag leak detector alarm. If alarm condition is not present, inspect

the system as soon as practical in accordance with collection capture and collection inspection procedures.

7.0 SYSTEM MAINTENANCE

Blackhawk will conduct periodic maintenance of the aluminum sweat furnace system. A summary of maintenance events is presented in Inset 2.

Inset 2 – Maintenance Schedule

Item	Activity	Schedule
Cartridge Filter	Clean and inspect cartridge elements	Semi-annually
Sweat Furnace	Replace refractory and repair components	As needed
Bag Leak Detector	Clean and inspect probe	Semi-annually

8.0 WORK PRACTICE AND POLLUTION PREVENTION

Prior to loading inflators into charge baskets, electrical wiring will be removed from each unit with non-sparking wire cutters. Wiring will be removed as close as practical to the inflator housing as possible. External plastic components will be removed to the extent possible. Inflators will be inspected for accumulations of oil, grease or other residual contaminants. Accumulated material will be removed to the extent possible by cleaning with dry rags.

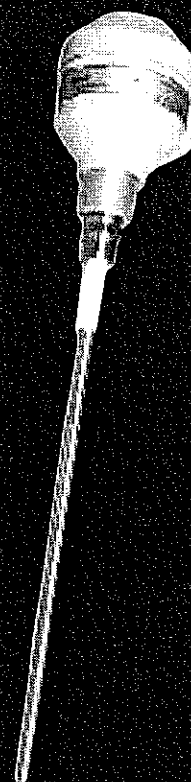
APPENDIX A
Manufacturer's Information – Bulletin 723

DustAlarm[®]

BROKEN BAG DETECTOR

- ▼ *Know When to Replace Filters in Dust Collectors*
- ▼ *Protect Blowers from Damage*
- ▼ *Help Comply with Clean Air Act*
- ▼ *Economical*
- ▼ *Two Year Warranty*

BULLETIN
723



DustAlarm[®]



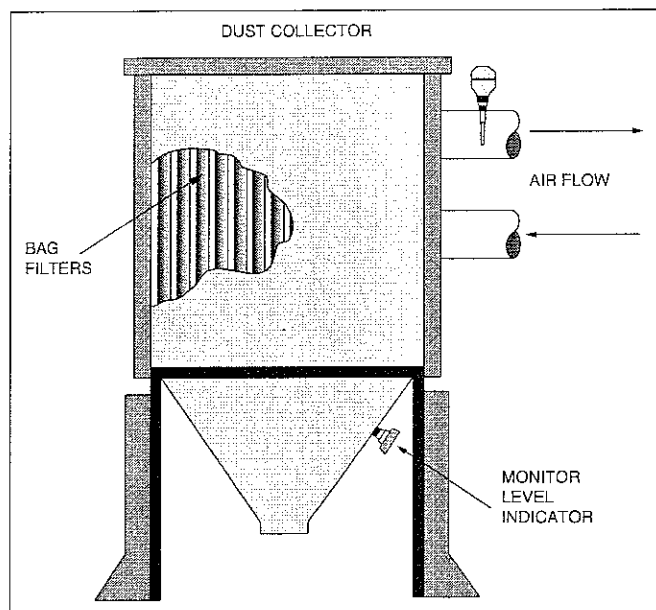
"SETTING THE STANDARD FOR SUPPLIER EXCELLENCE"

BULLETIN 723 DustAlarm® BROKEN BAG DETECTOR

- ▼ Adjustable Sensitivity Range and Time Delay for Operation with a Wide Variety of Bulk Material Applications
- ▼ Field-Proven Triboelectric Measurement Ensures Reliability
- ▼ Integrally Assembled Sensor and Electronics in Rugged Housing
- ▼ 316 Stainless Steel Probe with Specially Designed Insulator
- ▼ Multi-Colored LED Indicators Provide User-Friendly Designation of Functions
- ▼ Quick-Disconnect Mountings Available

The **DustAlarm®** Broken Bag Detector provides reliable and economical detection of filter failures in many powder and bulk solids industries. The **DustAlarm** is successfully utilized in a wide variety of applications where detection of dust levels is critical to either safety, maintenance, equipment operation, plant efficiency and/or the environment. Utilizing proven technology, the **DustAlarm** measures the triboelectric effect to determine when particle emissions exceed acceptable levels. The triboelectric measurement principle, characterized by simplicity and 20 years of technical refinement, results in superb application reliability.

Monitor's **DustAlarm** Broken Bag Detector incorporates visual indications and a relay output to maximize its user-friendliness and automation capabilities. Multi-colored LEDs provide for easy set up, indications of relay output status, and verification of operation (see drawing right). A reference point is set by the sensitivity adjustment, aided by a tri-color LED. The relay output status is indicated by a bi-color LED. The relay output can be used to activate an alarm device or can be integrated into a control system to enhance the overall operation of the dust collector.

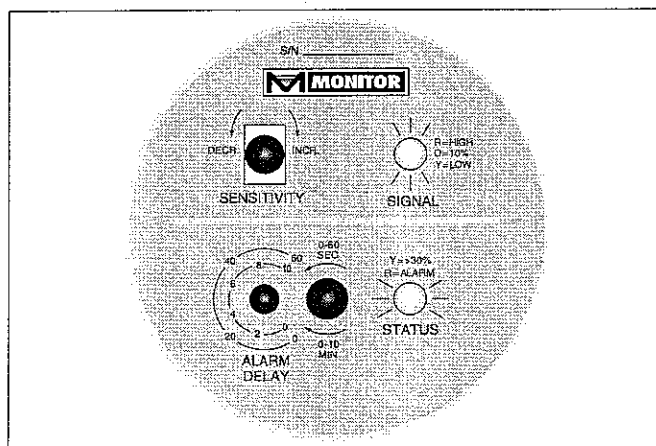


Typical Baghouse Application

PRINCIPLE OF OPERATION

Triboelectric measurement, which has been used for broken bag detection for many years, is based on the triboelectric effect. Also known as particle impingement or frictional electrification, the triboelectric effect pertains to the resulting charge transfer when one material rubs or impacts another.

Triboelectric measurement systems are designed to directly measure dust concentration in an exhaust duct. The result of dust particle collision with a stainless steel probe is the generation of electrical signals which are continuously monitored and analyzed by the **DustAlarm®** Broken Bag Detector electronics.



Integral Control Panel

APPLICATIONS

The **DustAlarm**® Broken Bag Detector is designed specifically for detecting dust concentrations in the exhaust ducts of baghouses, cartridge collectors, cyclones, and any other form of dust collector containing filters which may break or wear out. The sensitivity adjustment allows users to utilize the **DustAlarm** to meet the needs of a wide variety of applications. Also, Monitor's Quick-Disconnect assemblies are available to make periodic probe maintenance quick and easy.

TYPICAL APPLICATIONS INCLUDE, BUT ARE NOT LIMITED TO:

- | | |
|-------------------------|-----------------------|
| ▼ Ferrous Metals | ▼ Cement |
| ▼ Non-Ferrous Metals | ▼ Chemical Processing |
| ▼ Foundries | ▼ Pharmaceutical |
| ▼ Mining and Minerals | ▼ Feed |
| ▼ Pulp/Paper Processing | ▼ Utilities |
| ▼ Food Processing | ▼ Fly Ash |
| ▼ Plastics | ▼ Textiles |

FEATURES

The Monitor **DustAlarm**® Broken Bag Detector offers the following features:

- ▼ Proven Triboelectric technology provides:
 - Continuous monitoring of dust concentration
 - Alarm output to indicate change in filter condition
 - Reliable operation with adjustable sensitivity and time delay
- ▼ Rugged NEMA 4 housing provides:
 - Excellent protection for integral electronics
 - Screw-on/off cover for easy access to adjustments and LEDs, simplifying installation and set-up
- ▼ Quick-Disconnect mountings available to simplify installation and maintenance
- ▼ Excellent Value:
 - Competitive price
 - High quality and reliability
 - Backed by Monitor's two year warranty

SENSITIVITY ADJUSTMENT

The set-up procedure of the **DustAlarm** Broken Bag Detector is easily performed using the manual adjustments and indicators. The tri-color SIGNAL LED guides the user through the sensitivity adjustment procedure. The LED can be either yellow, orange or red. While the dust collector is running efficiently and clean, the user adjusts the sensitivity until the LED is orange, which becomes the fixed reference point. Once the particle emission level exceeds three times the level corresponding to the reference point, the **DustAlarm** will indicate an alarm condition.

FAIL-SAFE

The unit automatically changes to the alarm condition if the power applied should fail. If power should fail, the relay drops out into the mode which denotes an alarm condition.

TIME DELAY

The **DustAlarm** Broken Bag Detector time delay feature enhances operation and control minimizing the occurrence of false or nuisance signals that might occur during normal operation and cleaning cycles of the dust collector. The time delay provides a full 0 to 60 second or 0 to 10 minute adjustability and is set using the two position range selector switch and the single-turn potentiometer.

RUGGED CONSTRUCTION

The rugged NEMA 4 housing is designed for general purpose environments and incorporates a screw-on/off cover for easy access to the adjustments and LEDs during installation. The **DustAlarm** Broken Bag Detector includes pre-wired power and signal cables built-in to the unit for electrical connections.

UNIQUE PROBE DESIGN

The sensing probe is 316 stainless steel with a specially designed Teflon® composite extended insulator that helps protect the unit from false signaling due to product build up, eliminating the need for an air purge.

OPTIONS

QUICK-DISCONNECT WITH MOUNTING PLATE

The Quick-Disconnect with Mounting Plate assembly is typically strapped to the outlet duct for quick and easy removal for simplified periodic cleaning, should your application require it. Good for rectangular ducts and round ducts $\geq 8"$ in diameter. P/N 18-8000.

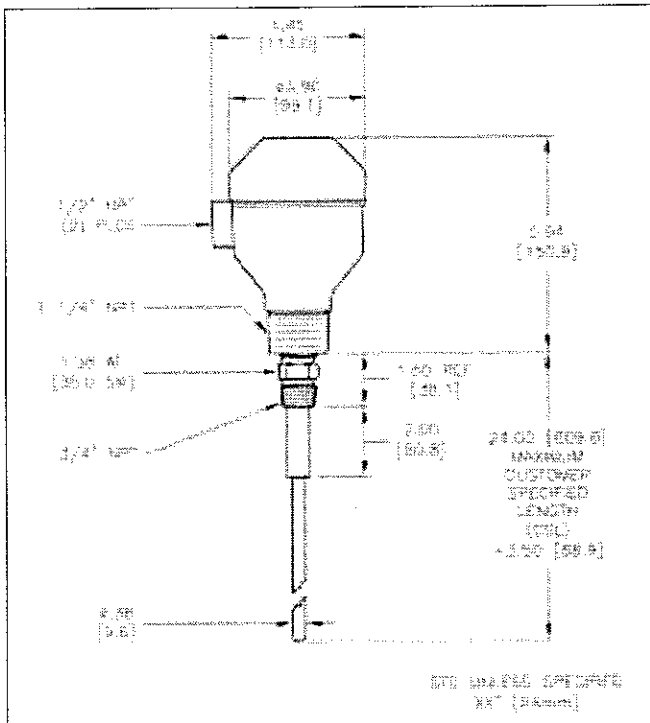
QUICK-DISCONNECT UNION

The Quick-Disconnect Union also provides for quick and easy removal of the **DustAlarm** Broken Bag Detector, and is typically welded directly to the outlet duct. P/N 18-3005 for 3/4". P/N 18-3006 for 1-1/4".

BULLETIN 723 DustAlarm®

MECHANICALS

DIMENSIONS ARE SHOWN IN INCHES WITH MILLIMETER EQUIVALENT IN BRACKETS



ORDERING INFORMATION

18 - 8 1 X 1 - X

OPERATING VOLTAGE

1=115 VAC
2=230 VAC

PROBE LENGTH

1=3" Probe
2=6" Probe
3=12" Probe
0=Custom Length < 12"
9=Custom Length > 12"
up to 36"

NOTE:

1 The probe length selection signifies the length of the active probe beyond the insulator. To calculate overall insertion length add approx. 3-1/2" if the 1-1/4" aluminum mounting connection is used, and add approx. 2" if 3/4" stainless steel mounting is used.

MOUNTING ACCESSORIES

18-8000 Quick-Disconnect with Mounting Plate
18-3005 Quick-Disconnect Union (3/4" SS)
18-3006 Quick-Disconnect Union (1-1/4" SS)

SPECIFICATIONS

Electronics:

Power Requirements: 115 or 230 VAC, 50/60Hz, +/-10%
Process Temp. (1-1/4" mt.): -10° F to 140° F (-25° C to 60° C)
Process Temp. (3/4" mt.): -10° F to 300° F (-25° C to 150° C)
(Quick-Disconnect required)

Output Relay:

SPDT isolated relay contact; 5 amps
@ 250VAC max or 30VDC

Sensitivity:

0.00044 grains/dscf typical detection at
maximum sensitivity

Alarm Setpoint:

Reference setting adjustable using tri-
color LED with 2 second smoothing

Alarm Threshold:

3 times reference setting

Time Delay:

Adjustable range 0 to 60 seconds or
0 to 10 minutes; via range selector
and single-turn potentiometer

Fail-Safe:

Alarm condition on power failure

Electrical Connections:

Pre-wired cables extend from the
conduit connections

Conduit Connection:

Dual 1/2" NPT

Indicators:

Tri-Color LED indicating: "Low"=
Yellow; "10%" = Orange; "High" = Red
Bi-Color LED indicating: ">30%" of full
scale = Yellow; "ALARM" = Red
NEMA 4, IP66; Designed for general
purpose locations

Housing:

Probe:

Architecture:

Integrally mtd to electronics housing

Mounting:

3/4" NPT, 316 SS; 1-1/4" NPT alum.

Pressure:

30 psi maximum

Insulator Material:

Teflon® composite

Probe:

3/8" diameter, 316 SS

Probe Length:

3", 6", 12" std.

consult factory for custom lengths

WARRANTY

Monitor Technologies LLC warrants each **DustAlarm®** Broken Bag Detector it manufactures to be free from defects in material and workmanship under normal use and service within two (2) years from the date of purchase. The purchaser must give notice of an defect to Monitor Technologies LLC within the warranty period, return the product intact and prepay transportation charges. The obligation of Monitor Technologies LLC under this warranty is limited to repair or replacement at its factory. This warranty shall not apply to any product which is repaired or altered outside of the Monitor Technologies LLC factory, or which has been subject to misuse, negligence, accident, incorrect wiring by others or improper installation. Monitor Technologies LLC reserves the right to change the design and/or specifications without prior notice.

Teflon® is a Trademark of Dupont Chemical Co.



Monitor Technologies LLC

44W320 Keslinger Rd. ▼ P.O. Box 8048 ▼ Elburn, IL 60119-8048 ▼ 800-766-6486 ▼ 630-365-9403 ▼ Fax: 630-365-5646

www.monitortech.com ▼ monitor@monitortech.com

723A.5.0103.5M



APPENDIX B
Manufacturer's Installation & Operation Instructions – Bulletin 724

BULLETIN 724

INSTALLATION & OPERATION

DustAlarm™ Broken Bag Detector



The **DustAlarm™** Broken Bag Detector provides reliable and economical detection of filter failures in many powder and bulk solids industries. The DustAlarm is successfully utilized in a wide variety of applications where detection of dust levels is critical to either safety, maintenance, equipment operation, plant efficiency and/or the environment.

Utilizing proven technology, the DustAlarm measures the triboelectric effect to determine when particle emissions exceed a preset threshold. The triboelectric measurement principle, characterized by simplicity and twenty years of technical refinement, results in superb application reliability.

The Monitor DustAlarm incorporates visual indications and a relay output to maximize its user-friendliness and automation capabilities. Multi-colored LED's provide for easy set-up, relay output status, and verification of operation (see Figure 5). The base line sensitivity is set by potentiometer adjustment (**SENSITIVITY**), aided by a tri-color LED (**SIGNAL**). The relay output status is displayed with a bi-color LED (**STATUS**). The relay output can be used to activate an alarm device or can be integrated into your control system thus enhancing overall operation of the dust collector or baghouse.

- ▼ Continuous monitoring to detect filter failures
- ▼ Proven Triboelectric technology
- ▼ Rugged construction
 - ▼ NEMA 4 housing with screw-on cover
 - ▼ Dust-ignition proof design
- ▼ 316 Stainless Steel probe
- ▼ Adjustable sensitivity/setpoint and time delay
- ▼ Multi-colored user-friendly indicators

PRINCIPLE OF OPERATION

Triboelectric measurement, which has been used for broken bag detection for many years, is based on the triboelectric effect. Also known as particle impingement or frictional electrification, the tribo-

electric effect pertains to the resulting charge transfer when one material rubs or impacts another.

Triboelectric measurement systems are designed to directly measure dust concentration in an exhaust duct. The result of dust particle collision with a stainless steel probe is the generation of electrical signals which are continuously monitored and analyzed by the DustAlarm electronics. When the signal exceeds a preset level (3 times greater than the normal base line signal), a time delay is initiated. If the signal remains above the preset level for the duration of the delay, the SPDT output relay changes state which can be used to initiate an alarm or other function.



MANUFACTURING, INC.

PRE-INSTALLATION CONSIDERATIONS

Specified Probe Length:

Be sure the probe length has been specified so that the DustAlarm purchased has a probe length such that it will reach the center of the duct or beyond, but not make contact with the opposite wall. The standard DustAlarm probe lengths are 3", 6", and 12". If required, the probe may be cut down to the proper length for the application (Figure 1). The minimum length is 2" (5 cm). Please consult the factory if probe lengths under 2" or over 12" are required.

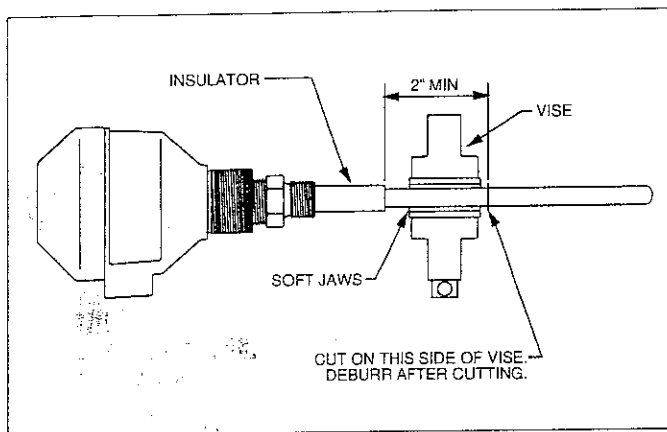


Figure 1

Choosing a Location:

The DustAlarm should be mounted directly on the outlet duct of the filter baghouse or dust collector system (see Figure 2). The preferred installation site is on a length of straight duct, approximately three (3) duct diameters from any obstructions (i.e. elbows, reducing fittings, etc.). For horizontal ducts, the unit should not be installed at the bottom, to avoid unnecessary build up of particles around the probe.

The DustAlarm can be mounted through a welded half coupling or through one of the optional Quick-Disconnect accessories. See Mechanical Installation for details.

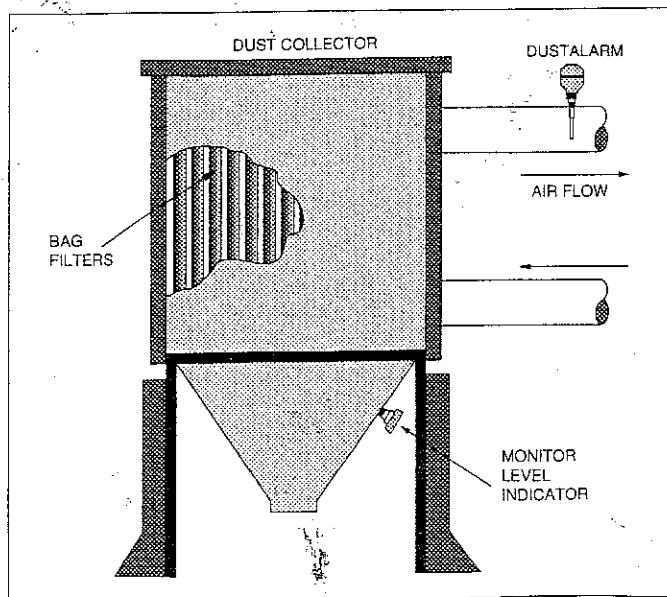


Figure 2

When selecting the mounting location for the DustAlarm, the following points should be observed:

- 1.) **Hazardous / Non-Hazardous:** The DustAlarm is designed for use in general purpose and hazardous locations associated with combustible dusts. The location chosen must comply with the classification listed in the specifications.
- 2.) **Temperature Limits:** The operational temperature limits must be satisfied to ensure reliable operation.
- 3.) **Accessibility:** The DustAlarm should be located accessible for set-up and maintenance.
- 4.) **Vibration:** The unit is designed for use in conjunction with baghouse and dust collector systems. As such it is provided with a rugged cast aluminum enclosure. However, care should be taken to protect the unit from excessive vibration.
- 5.) **Location Within System:** The unit must be located downstream from particulate control equipment, before the blower.
- 6.) **Upstream/Downstream Requirements:** The preferred installation site is three (3) duct diameters away from any obstructions. However, the location of the DustAlarm **must** be preceded by an unobstructed straight section of duct of at least two (2) pipe/duct diameters in length, and followed by an unobstructed straight section of at least one (1) pipe/duct diameter. If the duct is rectangular, use the diagonal dimension.
- 7.) **Duct Material:** For non-metallic ducts, an electrostatic (Faraday) shield is required. See Non-Metallic Ducts below.
- 8.) **Other Location Considerations:** The location should be a sufficient distance from the stack exit so that outside atmospheric conditions will not affect the sensor. For example, a heavy rain storm may cause a false signal if the sensor is located in a vertical stack.

MECHANICAL INSTALLATION

The DustAlarm is furnished with both a 3/4" and 1-1/4" NPT connection. If the Quick-Disconnect accessory item is used, the 1-1/4" NPT connection must be utilized.

Coupling Mounting: (see Figure 3)

To mount the DustAlarm, a 3/4" or 1-1/4" NPT half-coupling is welded to the duct over a 1" or 1-1/2" diameter hole, and the unit is screwed into the half-coupling. If a pipe joint sealant is used, be sure a metal-to-metal connection exists between the DustAlarm and the mounting coupling. When installed, the insulator should not be recessed from the inner wall, but should protrude into the flow stream (Figure 4).

Quick Disconnect Mounting:

Weld or strap the Quick Disconnect accessory to the duct, whichever is appropriate depending on the accessory utilized. When installed, the insulator should not be recessed from the inner wall, but should protrude into the flow stream (Figure 4).

Non-Metallic Ducts:

If the DustAlarm is to be installed in a nonmetallic pipe or duct, take the following special precautions to prevent the detection of stray electric fields:

- 1.) **Light Dusting:** If the DustAlarm is installed where only a light dust loading is present, an electrostatic (Faraday) shield must surround the pipe or duct for three diameters both up and down stream from the DustAlarm mounting location. The shield must make electrical contact with the mounting of the DustAlarm and a local earth ground. Hardware cloth, screen material or rabbit wire all make an adequate shield.

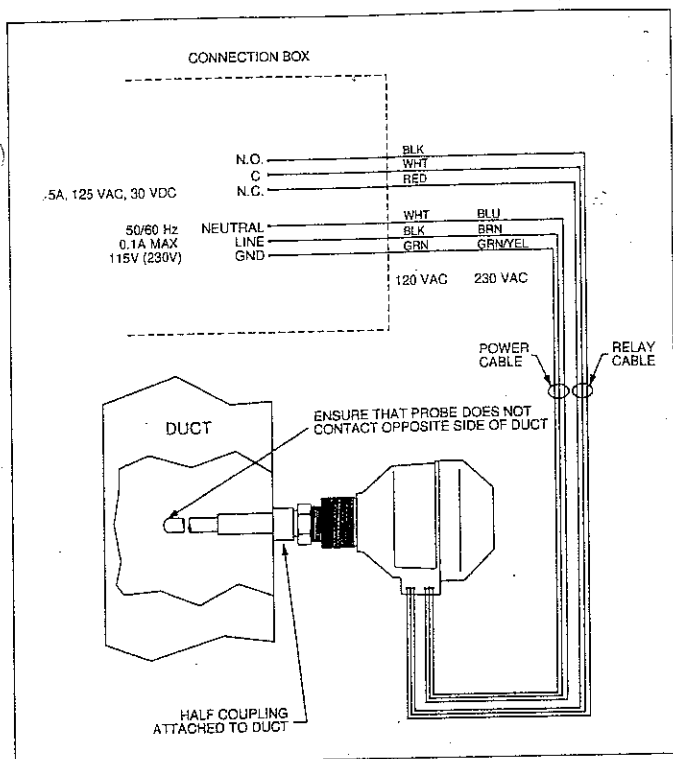


Figure 3

2.) Heavy Dusting: If a heavy dust loading is present, the DustAlarm must be installed in a section of metallic pipe or duct. The section should extend as far upstream as possible, at least two duct diameters downstream, and must be locally earth grounded.

NOTE: The DustAlarm mounting must be provided with a local earth ground, either through the ductwork and DustAlarm mounting or by a separate means connected to the mounting. The safety (protective earth) ground is provided through the power cable.

Test Port: For negative pressure systems, to aid in troubleshooting, it is recommended that a test port be installed upstream, approximately 2 duct diameters from the probe, on the same side of the duct. A plugged half coupling is sufficient.

Failure to correctly install the DustAlarm may prevent the unit from operating reliably; therefore, any modifications to these procedures should be discussed with the factory.

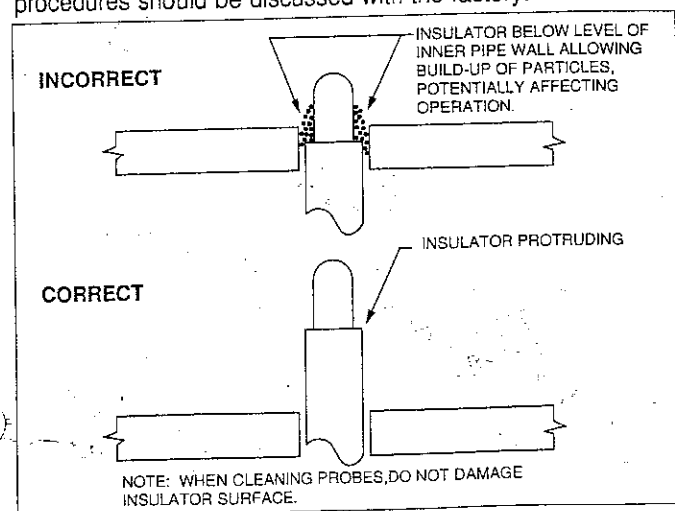


Figure 4

ELECTRICAL INSTALLATION

The 6 foot (2-m) power input and relay output cables protrude from one of the two 1/2" NPT conduit connections in the DustAlarm housing. Protective flexible conduit should be installed over the cables and the cable ends should be appropriately terminated in a separate enclosure. Proper sealed connectors should be utilized to preserve the NEMA 4 and 9 characteristics of the DustAlarm housing.

The power and relay output cables of the DustAlarm provide 300VAC double insulation. The cables have unique color codes to prevent mis-connections.

CAUTION:

- 1.) Do not connect 115VAC rated units to 230VAC. Permanent damage to the unit will result.
- 2.) Do not draw excessive or short circuit current through the relay contacts, as this may destroy the relay contacts and render the unit unusable.

NOTE: Connect the unit to sufficient flexible conduit length and locate the connection box such that the sensor probe may be withdrawn from the duct for inspection and maintenance.

Power Input:

When the DustAlarm is manufactured, different power cables are installed for 115VAC and 230VAC units. The conductor colors identify both the voltage rating and the proper connections.

115 VAC AWG 18

Black - Line
White - Neutral
Green - Ground

230 VAC .75 mm²

Brown - Line
Blue - Neutral
Green/Yellow - Ground (PE)

The DustAlarm contains a one-time thermal fuse embedded in the transformer to disconnect power in the event of a catastrophic failure. However, separate over-current protection and if required, an accessible service switch should be provided.

Output Relay Contacts:

The DustAlarm is shipped in a **FAIL-SAFE mode**. That is, the relay is energized when power is applied, an de-energized in the alarm mode. The relay provides 4000VAC isolation between the contacts, other circuitry and ground. The contacts are rated at 5A, 250VAC or 30VDC. The relay output cable is 18 AWG (0.81 mm²) and is color coded as follows:

Red - Normally Closed (open when not in alarm)
White - Common
Black - Normally Open (closed when not in alarm)

SET-UP

Description of Controls and Indicators (Figure 5):

Remove the cover and note the control and indicator designations on the panel. The following is a brief description of each.

- 1.) **SENSITIVITY:** The adjustable **SENSITIVITY** control is used to adjust the base line triboelectric signal level as indicated by the tri-color **SIGNAL LED**.
- 2.) **SIGNAL:** The tri-color **SIGNAL LED** guides the user when adjusting the **SENSITIVITY** control. Yellow represents <7.5% of full sensitivity range. Orange represents 7.5% to 12.5% of full range. Red represents >12.5% of full range. As you will see in "Calibration," the objective is set to the **SENSITIVITY** control such that the **SIGNAL LED** illuminates orange during clean air flow.

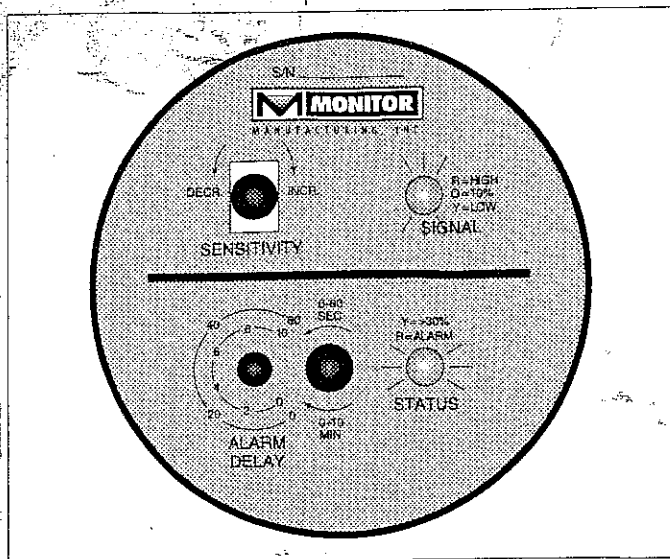


Figure 5

- 3.) **ALARM DELAY:** The adjustable **ALARM DELAY** provides the control capability of delaying the relay output until the alarm state of particle flow has reached a predetermined duration. It has two selectable ranges of 0 to 60 SEC (seconds) and 0 to 10 MIN (minutes). The range selector must be turned fully clockwise or fully counterclockwise. **DO NOT USE EXCESSIVE FORCE.**
- 4.) **STATUS:** The bi-color **STATUS** LED illuminates yellow when the signal exceeds three (3) times (approximately 30% of full range) the base line signal level (approximately 10% of full range) as set by the **SENSITIVITY** adjustment. Once the signal has remained above 30% of full range for the duration of the **ALARM DELAY** setting, the **STATUS** LED will illuminate red, and the relay output will activate. Note that if the **ALARM DELAY** is set to zero, the **STATUS** LED will illuminate red immediately (yellow will not be visible).

Initial Set-Up Procedure:

- 1.) Set the controls of the DustAlarm as follows:
 - The **SENSITIVITY** control is a 25 turn device with no end stops. Turn it 25 turns counterclockwise to achieve minimum sensitivity, then 5 turns clockwise as an initial setting.
 - Set the **ALARM DELAY** range selector to 0 to 60 sec, and adjust the **ALARM DELAY** potentiometer to a setting of 10 seconds.
- 2.) Ensure that power is applied to the unit and the **SIGNAL** LED is illuminated.
- 3.) Ensure that contacts are properly connected.
- 4.) Ensure that normal emissions are flowing past the probe. Please note that no signal will be indicated, nor will further adjustments be possible, unless particles impact the probe.
- 5.) Ensure that the following conditions exist prior to making the sensitivity adjustment:
 - a. Upstream processes are functioning normally and the dust collector is collecting dust.
 - b. Dust collector cleaning systems, such as pulse jet, rapper or shaker cycles are also functioning properly, since they will cause momentary or short-term increases in dust emissions.

CALIBRATION

Before performing calibration, make note of the following:

- a) The **SENSITIVITY** control provides good adjustment resolution, but it has no end stops.
- b) The DustAlarm has 2 to 3 seconds of built-in signal smoothing; as such, the **SENSITIVITY** control should be adjusted slowly to prevent overshoot.

Calibration:

The **SIGNAL** LED will always be illuminated in one of three colors: yellow, orange or red. Slowly adjust the **SENSITIVITY** control to achieve an approximate 10% of full range signal, as indicated by the **SIGNAL** LED illuminating orange.

The **SENSITIVITY** control should be:

- Increased (CW) if Yellow
- Decreased (CCW) if Red
- Left "as is" if it is Orange

Consideration for Cleaning Cycles:

It is helpful to observe the **SIGNAL** LED through several cleaning cycles to ensure that the **SENSITIVITY** adjustment is based on normal flow between cleaning pulses. A uniquely sustained pulse may indicate a leaking bag or filter. Also, be sure to observe the **STATUS** LED through several cleaning cycles to determine the period of the longest cycle.

ALARM DELAY:

Each baghouse or dust collector has its own unique operating characteristics in regard to cleaning; as such, the **ALARM DELAY** control must be adjusted for these characteristics. There are two basic types of dust collectors: pulse type and off-line cleaning type. Use one of the following guidelines based on your type of collector.

- a.) **Pulse Type:** Pulse type are those dust collectors which are cleaned with a pulse of air. Monitor the duration of emissions following each cleaning pulse. Set the alarm delay at least 10% longer than the duration of the cleaning pulse.
- b.) **Off-line Cleaning Type:** Off-line cleaning type dust collectors are those which are "taken off line" with the closing of dampers. Monitor the duration between the time the dampers are reopened and the time the extra emissions bleed off from the system. Set the alarm delay at least 10% longer than that duration.

NOTE: If possible, inject a small amount of dust into the duct upstream of the DustAlarm at the test port (see page 3) to further verify proper operation.

Additional Considerations:

- 1.) The magnitude of a cleaning pulse emission usually far exceeds the sustained emission between pulses; however, they are usually of short duration. An increase in the overall leakage rate of the collector, or a catastrophic bag failure, will cause the sustained signal to increase and remain high for an extended period.
- 2.) For sophisticated requirements, the average emission rate could be determined by a parallel gravimetric test, such as EPA Method 5 or 17, to quantify the true alarm level setting.

Calculating the "Actual Sensitivity" Setting:

Occasionally it may be desirable to determine the actual setting of the **SENSITIVITY** control for record keeping or compliance requirements. The actual sensitivity setting within the 1 to 101 range, may be closely determined using the following technique:

Adjust the **SENSITIVITY** control 25 turns CCW (Counter-ClockWise) to achieve a sensitivity setting of 1, then adjust the control slowly while counting the number of CW (ClockWise) turns until the **SIGNAL** LED is orange. The **SENSITIVITY** setting achieved may be calculated thus:

$$S = \{T_{cw}(100)/25\} + 1$$

Where: S = Sensitivity (1 to 101)
T_{cw} = CW Turns

TROUBLESHOOTING

Problem: The DustAlarm is totally inoperative and the SIGNAL LED is Off.

Cause/Solution:

- 1.) Check for line voltage at the power cable.
- 2.) If no voltage is present, re-establish power to the DustAlarm.
- 3.) If voltage is present, contact the factory.

Problem: A constant high Signal is indicated (SIGNAL LED is red and STATUS LED is on) with no flow across the probe.

Cause/Solution:

- 1.) Solids may be bridging the probe, or material may have accumulated on the probe surface. Refer to "Probe Cleaning Procedure" in next column.
- 2.) Ensure the insulator is not recessed from the inner surface of the duct wall.
- 3.) Ensure that a major filter failure has not occurred.

Problem: Unit does not respond to flow variation.

Cause/Solution:

- 1.) Refer to the "Initial Set-Up" and "Calibration" sections of this manual, as well as to the "Zero Check Procedure" in the "Maintenance" section.
- 2.) If there is still no response, consult the factory.

ROUTINE MAINTENANCE

Zero Check Procedure:

The system Zero Check allows verification that the DustAlarm is false signal free and thus, any signal observed during normal operation is due solely to particle impaction on the sensor probe.

Caution: Performing the Zero Check Procedure may require resetting the **SENSITIVITY** control as described in the Calibration procedure. Therefore, make note of all settings prior to performing this check.

- 1.) Ensure that no particles are impinging on the probe by:
 - Creating a zero flow condition in the duct (shutting down the system), or
 - Removing the sensor probe from the duct and inserting it into a Faraday shield (A metal tube surrounding, but not contacting, the probe and grounded to the DustAlarm body and the mounting sleeve).

- 2.) Turn the **SENSITIVITY** control CW; count and record the turns until a faint clicking sound is heard. If no clicking sound is heard due to background noise, insure that the control is turned at least 25 turns CW.

- 3.) If the **SIGNAL** LED is orange or red after waiting about 15 seconds, proceed to the Probe Cleaning Procedure.

- 4.) If the **SIGNAL** LED remains yellow after waiting about 15 seconds, reinstall the DustAlarm, if it was removed in Step 1, and reset the **SENSITIVITY** control by turning it CCW the number of turns recorded in Step 2. If the turns could not be counted, perform the Calibration procedure on page 4.

Probe Cleaning Procedure:

- 1.) Clean the sensor, especially the insulator, with a clean dry rag; do not use liquids - install the sensor in the duct or the Faraday shield. If the **SIGNAL** LED is yellow, the sensor was fouled by a build-up of conductive material over the insulator.

- 2.) If cleaning did not eliminate the false signal, consult the factory for assistance.

If the preceding information and procedures contained within the Trouble Shooting and Routine Maintenance sections do not prove sufficient, contact the factory.

BULLETIN 724

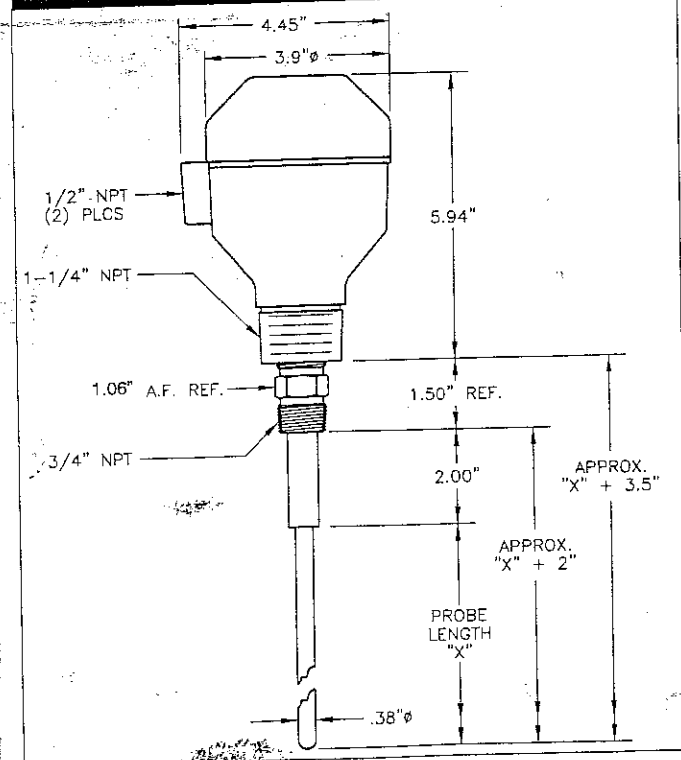
DustAlarm

WARRANTY

Monitor Manufacturing warrants each **DustAlarm** product it manufactures to be free from defects in material and workmanship under normal use and service within two (2) years from the date of purchase within North America, and within one (1) year from date of purchase outside of North America. The purchaser must give notice of an defect to Monitor within the warranty period, return the product intact and prepay transportation charges. The obligation of Monitor Manufacturing under this warranty is limited to repair or replacement at its factory. This warranty shall not apply to any product which is repaired or altered outside of the Monitor Manufacturing factory, or which has been subject to misuse, negligence, accident, incorrect wiring by others or improper installation.

Monitor reserves the right to change the design and/or specifications without prior notice.

MECHANICALS



SPECIFICATIONS

Electronics:

Power Requirements:	115 or 230 VAC, 50/60Hz, +/-10%
Operating Temperature Range:	-10° F to 140° F (-25° C to 60° C)
Output Relay:	SPDT isolated relay contact; 5 amps @ 250VAC max or 30VDC
Sensitivity Range:	Adjustable 101 to 1; 0.005 grains/dscf typical detection at max sensitivity
Alarm Setpoint:	Reference setting adjustable using tri-color LED with 2 second smoothing
Alarm Threshold:	3 times reference setting
Time Delay:	Adjustable range 0 to 60 seconds or 0 to 10 minutes; via range selector and single-turn potentiometer
Fail-Safe:	Alarm condition on power failure
Electrical Connections:	Pre-wired cables extend from the conduit connections
Conduit Connection:	1/2" NPT
Indicators:	Tri-Color LED indicating: "Low" = Yellow "10%" = Orange "High" = Red Bi-Color LED indicating: ">30%" of full scale = Yellow "ALARM" = Red

Approvals/Listings:

Class II, Div. 1 & 2, Groups E,F,G;
General Purpose
(CSA and FM Pending)
NEMA 4, IP66

Probe:

Architecture:	Integrally mounted to electronics housing
Mounting:	3/4" NPT, 316 SS, 1-1/4" NPT aluminum
Pressure:	30 psi maximum
Insulator Material:	Teflon® composite
Probe:	3/8" diameter 316 SS
Probe Length:	3", 6", 12" std.; consult factory for custom lengths

Teflon® is a Trademark of Dupont Chemical Co.



MANUFACTURING, INC.

44W320 Keslinger Rd. ▼ P.O. Box 8048 ▼ Elburn, IL 60119-8048 ▼ 630-365-9403 ▼ 800-766-6486 ▼ Fax: 630-365-5646 ▼ <http://www.monitormfg.com>

724A.1.0796.2.5

INSTALLATION & OPERATION SUPPLEMENT TO BULLETIN 724

DustAlarm™ Broken Bag Detector

CALIBRATION

Under certain situations when initially installing and calibrating the unit, you may have difficulty getting the **SIGNAL LED** to display all three colors. Although you have turned the **SENSITIVITY** control fully (25 turns) clockwise, the **SIGNAL LED** remains yellow but it will not turn orange. This indicates the dust filtration system is operating at very high efficiency, allowing little dust to pass. Under these circumstances, the **SENSITIVITY** control should be left at the maximum.

To verify the operation of an installed DustAlarm™ broken bag detector and to ensure the unit is operating properly, simulate a filter failure by injecting a small amount of dust upstream from the DustAlarm for a period of two seconds. It is preferable to

add this material through a test port. In some cases, simply striking the duct work several times will dislodge enough dust from the duct walls to test for proper operation (see Figure A).

The **SIGNAL LED** should turn red and the **STATUS LED** should illuminate yellow for a short time. If the **ALARM DELAY** is set close to the minimum, the **STATUS LED** may also turn red (see Figure B). The **ALARM DELAY** should be set long enough to prevent false alarms due to normal filter cleaning pulses.

In the event that you are still having difficulty with the unit, please consult the factory.

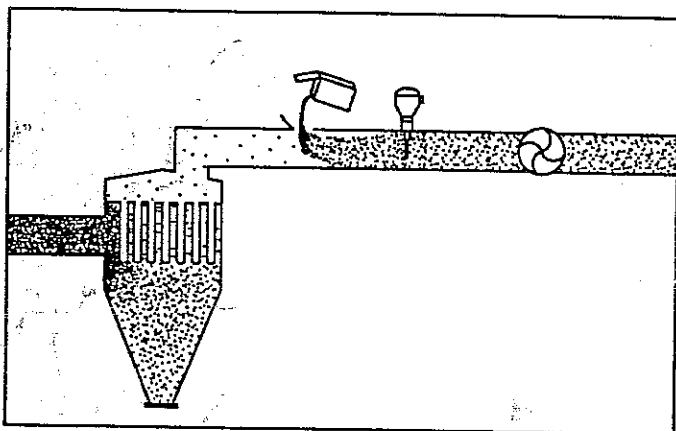


Figure A

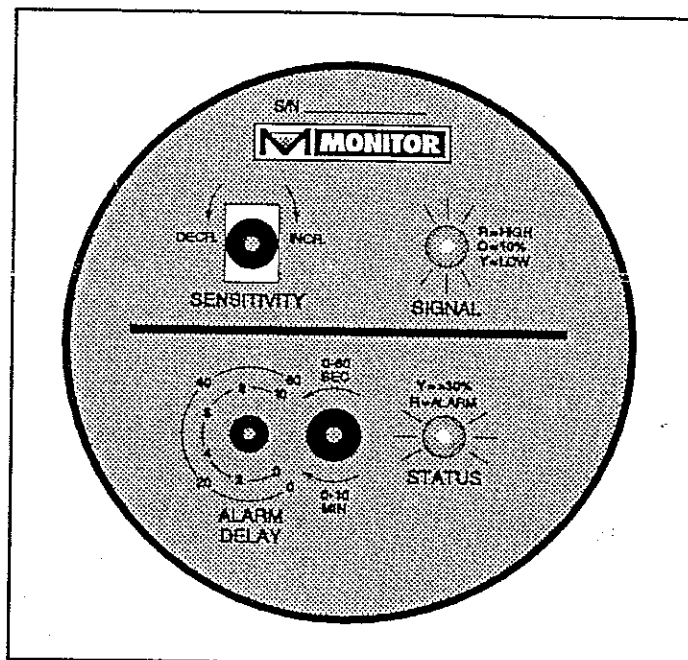


Figure B